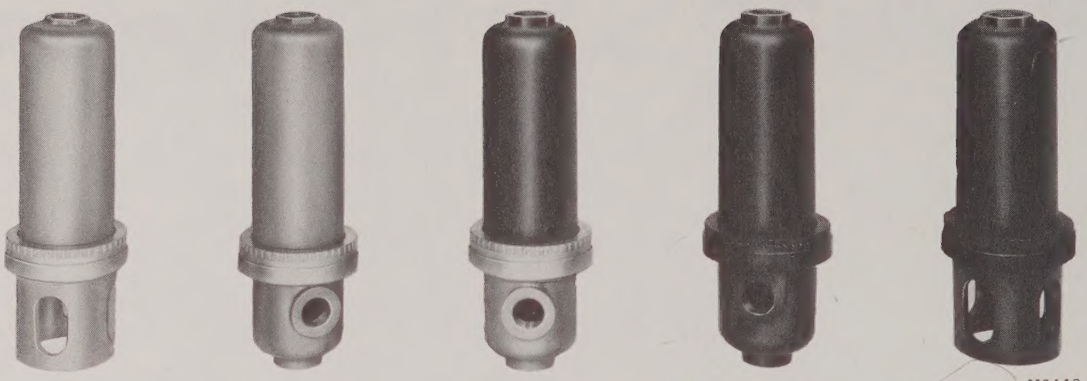
7773

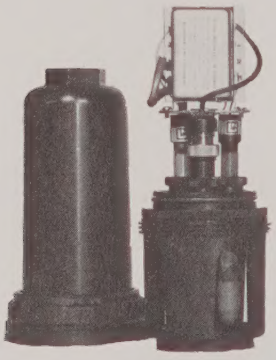
MULTIPURPOSE ELECTRODE MOUNTING ASSEMBLY

LEEDS & NORTHRUP

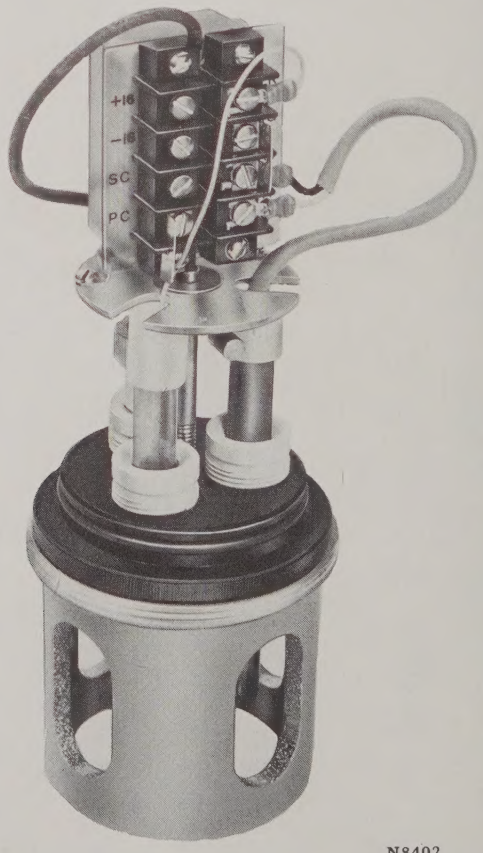


N8418

7773 MULTI-PURPOSE ELECTRODE AND TRANSMITTER MOUNTINGS



7773 ELECTRODE AND TRANSMITTER MOUNTING



7773 IMMERSION MOUNTING ASSEMBLY with top cover removed. The transmitter is an environmentally sealed (encapsulated), high-impedance preamplifier which, when specified, is mounted within the 7773 Mounting. The measuring and reference electrodes and optional automatic temperature compensator are directly connected to the preamplifier. The preamplifier conditions and amplifies the electrode signal locally; this signal can then be transmitted over ordinary unshielded wire to a receiver (L&N 7073 or 7075) or Speedomax recorder.

N8402

DRAWING NO.

CAT. 7773 — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

TRANSMITTER	ELECTRODE MOUNTING	ELECTRODES	TEMPERATURE COMPENSATOR	TAGGING
1	4	0 2	2	0 0 0
SUFFIX "A"	SUFFIX "B"	SUFFIX "C"	SUFFIX "D"	SUFFIX "E"

MAT'L REQUIRED FOR ALL CAT. NO'S.

PART	QTY	DESCRIPTION
027591	1	RETAINER
003495	3	COMPRESSION NUT
082124	3	DUAL O-RING (VITON) (SEE ENGR. NOTE *3)
301393	3	O-RING WASHERS
082122	2	O-RINGS (LARGE - VITON) (SEE ENGR. NOTE *3)
090011	1	SILICONE GREASE
177724	1	DIRECTIONS
083053	1	PIPE SEALANT
	1	LITHO COPY OF D-SPEC-1577-260 (SEE NOTE 2)
	1	LITHO COPY OF DWG. D-1577-260-A
194965	1	LABEL (SEE NOTE *3)

WHEN SUFFIX "A" IS 1

PART	QTY	DESCRIPTION
101316	1	TRANSMITTER
040874	1	SHORTING CABLE
327289	1	SUPPORT

WHEN SUFFIX "A" IS 2

PART	QTY	DESCRIPTION
31G474	1	TERMINAL ASSEMBLY
040849	1	ADAPTER CABLE
337G33	1	12 FOOT CABLE
327289	1	SUPPORT

WHEN SUFFIX "A" IS 3

PART	QTY	DESCRIPTION
31G474	1	TERMINAL ASSEMBLY
327289	1	SUPPORT

WHEN SUFFIX "A" IS 4

PART	QTY	DESCRIPTION
101316	1	TRANSMITTER
040874	1	SHORTING CABLE
327608	1	SUPPORT
076525	1	FITTING
321342	1	THERMOCOUPLE

WHEN SUFFIX "B" IS 1

PART	QTY	DESCRIPTION
267895	1	COVER (POLYPROPYLENE)
182141	1	FLOW CHAMBER (POLYPRO)
128742	1	RING (POLYPROPYLENE)
324438	1	MOUNTING KIT

WHEN SUFFIX "B" IS 2

PART	QTY	DESCRIPTION
267895	1	COVER (POLYPROPYLENE)
095272	1	PROTECTOR (POLYPRO)
128742	1	RING (POLYPROPYLENE)

WHEN SUFFIX "B" IS 3

PART	QTY	DESCRIPTION
267885	1	COVER (STAINLESS STEEL)
182124	1	FLOW CHAMBER (STAIN. STL.)
128735	1	RING (STAINLESS STEEL)
324438	1	MOUNTING KIT

WHEN SUFFIX "B" IS 4

PART	QTY	DESCRIPTION
267885	1	COVER (STAINLESS STEEL)
095271	1	PROTECTOR (STAIN. STL.)
128735	1	RING (STAINLESS STEEL)

WHEN SUFFIX "B" IS 5

PART	QTY	DESCRIPTION
267895	1	COVER (POLYPROPYLENE)
182124	1	FLOW CHAMBER (STAIN. STL.)
128735	1	RING (STAINLESS STEEL)
324438	1	MOUNTING KIT

WHEN SUFFIX "B" IS 6

PART	QTY	DESCRIPTION
267446	1	COVER (PPS)
095305	1	PROTECTOR (PPS)
128749	1	RING (PPS)

WHEN SUFFIX "B" IS 7

PART	QTY	DESCRIPTION
267446	1	COVER (PPS)
182157	1	FLOW CHAMBER (PPS)
128749	1	RING (PPS)
324438	1	MOUNTING KIT

(PPS) POLYPHENYLENE SULFIDE

WHEN SUFFIX "C" IS 00

DO NOT SUPPLY ELECTRODES

WHEN FIRST DIGIT IS "0" & SECOND DIGIT IS OTHER THAN "0"

PART	QTY	DESCRIPTION
117392	1	REFERENCE ELECT. (EPOXY)

WHEN FIRST DIGIT IS "1" & SECOND DIGIT IS OTHER THAN "0"

PART	QTY	DESCRIPTION
117300	1	REFERENCE ELECT (GLASS)

WHEN SECOND DIGIT IS 1

PART	QTY	DESCRIPTION
117389	1	pH MEAS. ELECT. -5° TO +40°C

WHEN SECOND DIGIT IS 2

117390	1	pH MEAS. ELECT. 10° TO 80°C

WHEN SECOND DIGIT IS 3

117391	1	pH MEAS. ELECT. 40° TO 110°C

WHEN SECOND DIGIT IS 4

117419	1	GOLD TIP REDOX ELECT.

WHEN SECOND DIGIT IS 5

117420	1	SILVER TIP REDOX ELECT.

WHEN SECOND DIGIT IS 6

117418	1	PLATIUM TIP REDOX ELECT.

WHEN SECOND DIGIT IS 7

117399	1	ANTIMONY TIP pH ELECT.

WHEN SUFFIX "D" IS 0

PART	QTY	DESCRIPTION
NONE		

WHEN SUFFIX "D" IS 1

109068	1	PLUG

WHEN SUFFIX "D" IS 2

152137	1	TEMP. COMPENSATOR (EPOXY)

WHEN SUFFIX "D" IS 3

352145	1	TEMP. COMPENSATOR (GLASS)

WHEN SUFFIX "D" IS 4

152139	1	TEMP. COMPENSATOR (GLASS) (EQUIVALENT TO 152137)

WHEN SUFFIX "E" IS 000

DO NOT SUPPLY LABEL OR TAGS

WHEN SUFFIX "E" IS 205

LABEL SUPPLIED PER SPEC. 1577-260-205

WHEN SUFFIX "E" IS 206

LINEN TAG SUPPLIED PER SPEC. 1577-260-206

WHEN SUFFIX "E" IS 207

ALUMIIJUM TAG SUPPLIED PER SPEC. 1577-260-207

WHEN SUFFIX "E" IS 208

STAINLESS STEEL TAG SUPPLIED PER SPEC. 1577-260-208

NOTES

1. SELECT MATERIAL FOR CAT. NO. FROM L & N ORDER.
2. SUPPLY (1) LITHO COPY OF THIS SPEC. (D-SPEC. 1577-260) WITH CAT. NO. SUFFIX BLANKS FILLED IN WITH APPROPRIATE NUMBERS OBTAINED FROM L & N ORDER CARD.
3. MOUNT LABEL ON COVER AS SHOWN ON LITHO COPY OF DWG D-1577-260-A.

ENG NOTES

1. WIRING DIAGRAM PER DWG. D-ID-1577-260-A & D-ID-1577-260-B.
2. OUTLINE & DIMENSIONS PER DWG. D-DIM-1577-260.
3. AVAILABLE IN ETHYLENE-PROPYLENE RUBBER (E.P.M.) ((3) 082152 , (1) 082151) AS SEPARATE ITEMS.

ISSUE	DATE	REVISION NO.	ZONE	APPROVAL
E	8-26-78	C117		WRD
4	9-20-79	C18		WRD

TEMPORARY APPROVAL ☐ FINAL APPROVAL ☐

DRAWN F.O. DATE | CHECKED D.W.C. | ENG. APPR. W.R.D. DATE 9-19-79 | DESIGNED

FIRST MADE FOR L&N ORDER NO. LN

CAT. 7773-□-□-□-□-□

ELECTRODE MOUNTING ASSEMBLIES

UNLESS OTHERWISE STATED: ALL DIMENSIONS IN INCHES. TOL. ON DECIMAL DIM. .X ±.020" .XX ±.010" ANGULAR TOL. ±2°

SCALE — DO NOT SCALE DWG.

LEEDS & NORTHRUP NORTH WALES, PA. U.S.A.

SIZE D

DWG. NO. D-SPEC-1577-260

SH. NO. 1 NO. SH. 1

FORM 82-40-12

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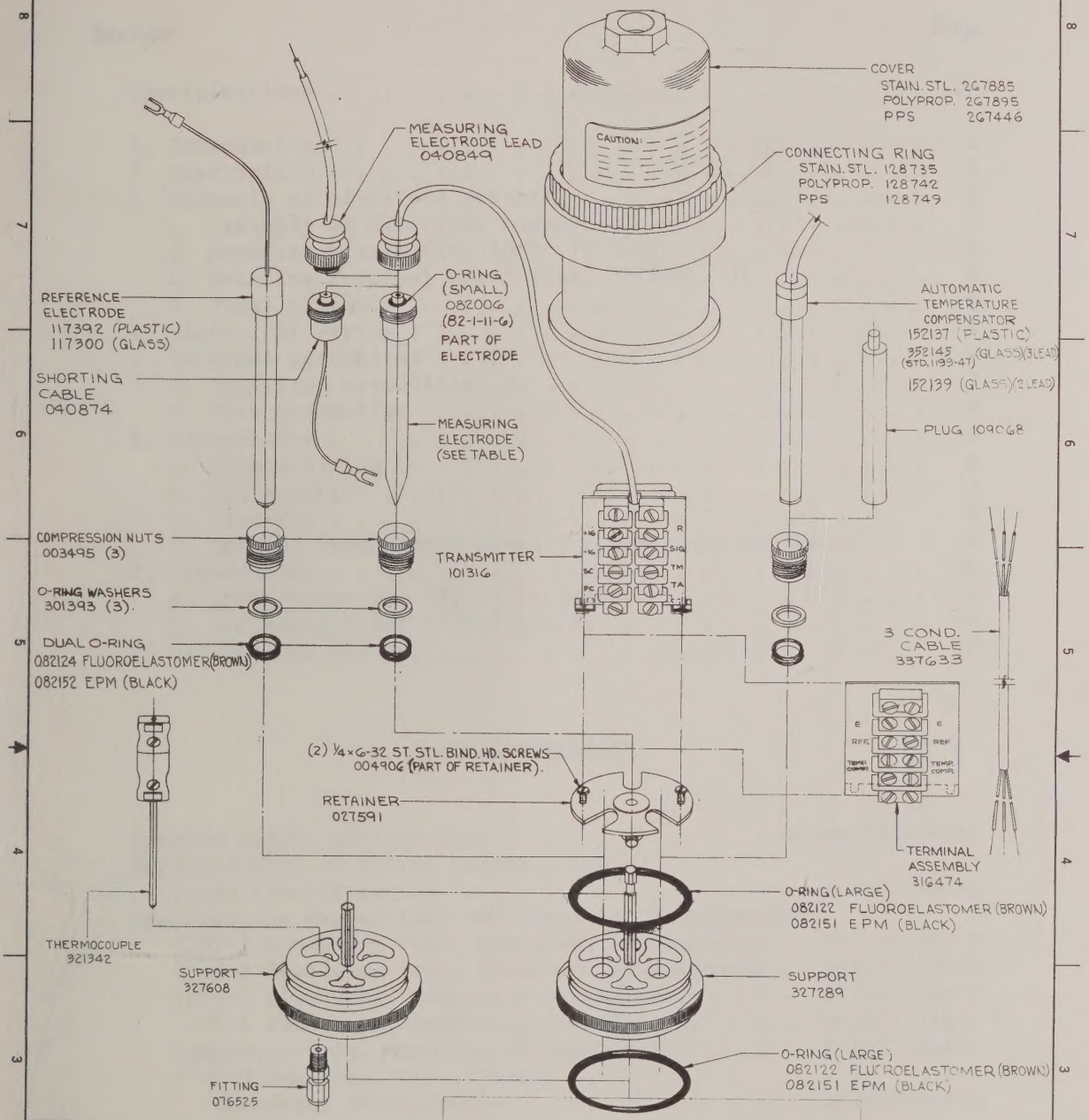


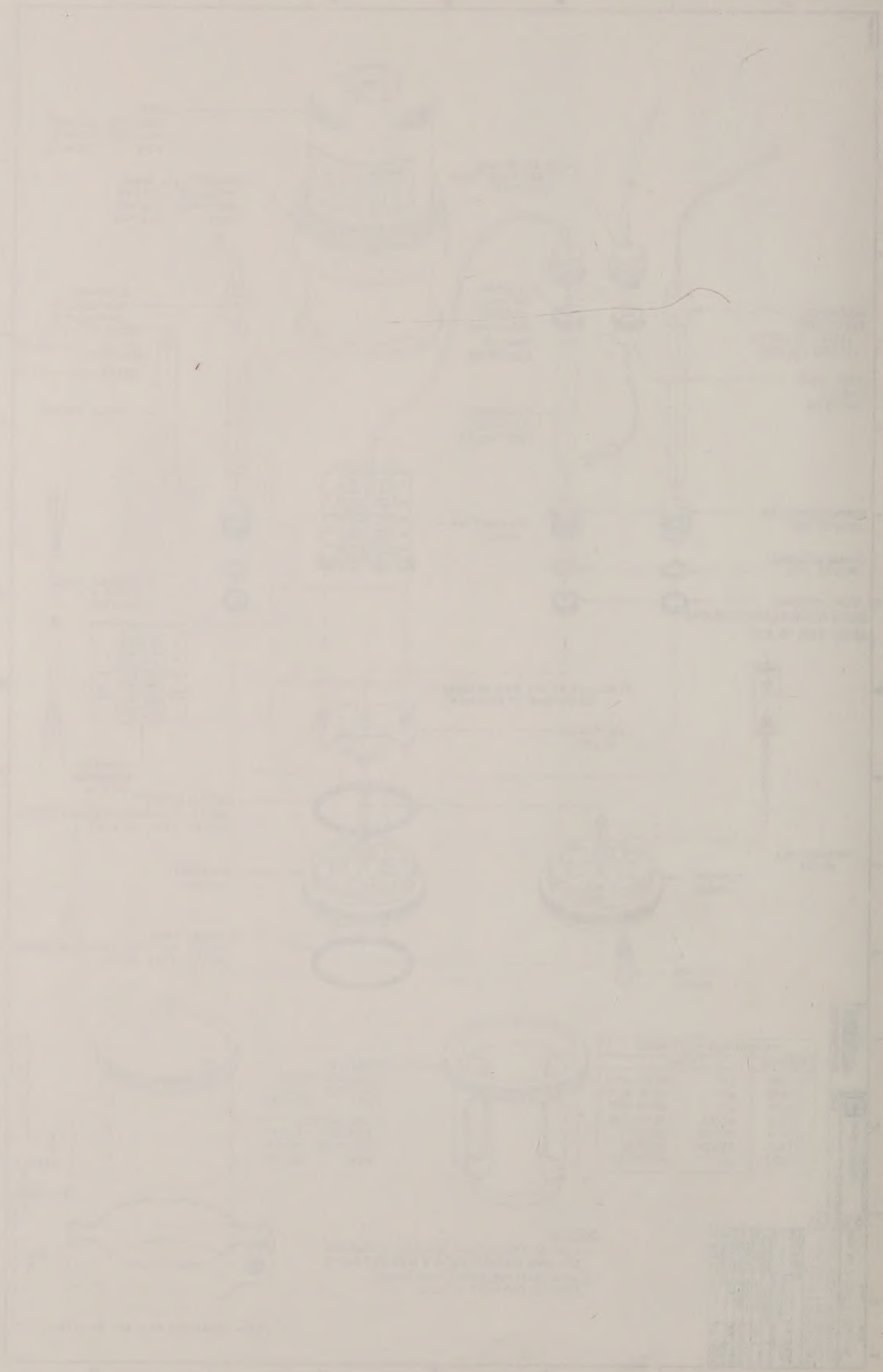
MEASURING ELECTRODE		
PART NO.	TYPE	
117389	pH	-5° TO +40°C
117390	pH	10° TO 80°C
117391	pH	40° TO 110°C
117418	REDOX	PLATINUM
117419	REDOX	GOLD
117420	REDOX	SILVER
117399	pH	ANTIMONY

NOTES:
1. FOR INSTALLATION WIRING DIAGRAM, SEE DWG. D-ID-1577-260-A & D-ID-1577-260-B
2. FOR OUTLINE & MTG. DIM. DWG., SEE D-DIM-1577-260.

ASSEMBLY DIRECTIONS FOR CAT. 7713 SERIES ELECTRODE MOUNTINGS

DWG. NO. D-1577-260-A

LEEDS & NORTHRUP



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LIST OF DRAWINGS

Catalog Suffix Designations	D-SPEC-1577-260
Exploded View of Entire Assembly with Parts Identification	D-1577-260-A
Installation Suggestions and Component Arrangements	
7773-1 Immersion Type, Component Arrangements	B-1577-260-B
7773-2 Immersion Type, Component Arrangements	B-1577-260-C
7773-2 Flow Type, Component Arrangements	B-1577-260-D
7773-1 Flow Type, Component Arrangements	B-1577-260-E
Immersion Type, Mounting Arrangements	C-1577-260-F
7773-3 Immersion Type, Redox, Component Arrangements	B-1577-260-G
7773-3 Flow Type, Redox, Component Arrangements	B-1577-260-H
7773-3 Immersion Type, Ion Selective, Component Arrangements	B-1577-260-I
7773-3 Flow Type, Ion Selective, Component Arrangements	B-1577-260-J
Outline and Mounting Dimensions	D-DIM-1577-260
Installation Wiring for Direct Measuring Instruments	D-ID-1577-260-A
Installation Wiring for 7073 Monitor	D-ID-1577-260-B
Installation Wiring for Speedomax M pH Recorder	C-ID-1577-260-E
Installation Wiring for Speedomax H or W pH Recorder	C-ID-1577-260-F

SPECIFICATIONS

Catalog Number	7773-□-1	7773-□-2	7773-□-3*	7773-□-4	7773-□-5*
Type	For **flow** service in moderately pressurized lines or atmospheric discharges. Made of glass-fiber reinforced polypropylene.	For **immersion** service in open tanks or process vessels. Similar to 7773-□-1 except for substitution of electrode protecting guard for the flow chamber.	For **flow** service in high pressure lines. Made of 316 SS with exception of polypropylene electrode support gland.	For **immersion** service in open tanks or process vessels. Similar to 7773-□-3 except for substitution of electrode protecting guard for the flow chamber.	For **flow** service in high pressure lines. Same as 7773-□-3 except that cover is made of poly-propylene.
Maximum Pressure & Temperature	100 psig (7.03 kg/cm²), 60°C (140°F); 50 psig (3.5 kg/cm²), 80°C (176°F).	100 psig (7.03 kg/cm²), 60°C (140°F); 50 psig (3.5 kg/cm²), 100°C (212°F).	150 psig (10.5 kg/cm²), 70°C (158°F); 70 psig (4.92 kg/cm²), 110°C (230°F).	100 psig (7.03 kg/cm²), 80°C (176°F); 70 psig (4.92 kg/cm²), 110°C (230°F).	150 psig (10.5 kg/cm²), 0-70°C (158°F); 70 psig (4.92 kg/cm²), 110°C (230°F).
Relative Humidity	Can be used at 100% Relative Humidity				
Immersion Depth	——	Up to 200 ft (61 m) with transmitter. Up to 10 ft (3 m) without transmitter.**	——	Up to 200 ft (61 m) with transmitter. Up to 10 ft without transmitter**.	——
Sample Flow Rate	15 gpm (56.8 l/m) max. Lower flow rate for viscous solutions and abrasives. 0.47 gpm (.8 l/m) for high-purity water****	——	15 gpm (56.8 l/m) max. Lower flow rate for viscous solutions and abrasives. 0.47 gpm (.8 l/m) for high-purity water****	——	15 gpm (56.8 l/m) max. Lower flow rate for viscous solutions and abrasives. 0.47 gpm (.8 l/m) for high-purity water****
Flow Chamber Volume	175 ml.	——	175 ml.	——	175 ml.
Sample Connections, Inlet & Outlet	¼" NPT Female	——	¼" NPT Female	——	¼" NPT Female
Materials of Construction					
Cover	Polypropylene	Polypropylene	316 SS	316 SS	Polypropylene
Flow Chamber	Polypropylene	——	316 SS	——	316 SS
Guard	——	Polypropylene	——	316 SS	——
Connecting Ring	Polypropylene	Polypropylene	316 SS	316 SS	316 SS
Electrode Support	Ryton	Ryton	Ryton	Ryton	Ryton
"O" Rings *****	Viton A	Viton A	Viton A	Viton A	Viton A
"O" Ring Washers***	Polypropylene	Polypropylene	Polypropylene	Polypropylene	Polypropylene
Compression Nut***	Delrin	Delrin	Delrin	Delrin	Delrin
Weight	3 lb (1.4 kg)	3 lb (1.4 kg)	6 lb (2.7 kg)	6 lb (2.7 kg)	5 lb (2.3 kg.)
Dimensions	4" O.D. x 11" long (102 x 279 mm)				
Electrical Connection (And Immersion Support Pipe)	¾" NPT Female				
Installation	324438 Mounting Kit supplied for wall or other flat surface mounting.	Pipe support in tank; use plastic pipe, not supplied.	324438 Mounting Kit for wall or other flat surface mounting.	Pipe support in tank; use stainless steel pipe, not supplied.	324438 Mounting Kit supplied for wall or other flat surface mounting.
Color	Black		Natural Stainless Steel Casting		Black cover, natural stainless steel casting flow chamber.

**Conforms to A.P.I. and ASME Codes for 150 psig operation.*

***Immersion limited to 10 ft (3 m) (Length of adapter cable).*

****Not in contact with process fluid.*

*****The stainless steel flow chamber (7773-□-3 or -5) is recommended for best stability in high-purity water applications.*

******The O-rings can also be supplied in ethylene rubber (EPM). The EPM rings are black; the Viton A O-rings are brown.*

7773

MULTIPURPOSE ELECTRODE MOUNTING ASSEMBLY

1. INTRODUCTION

The Multipurpose Electrode Mounting is designed for pH, redox (ORP) or selective ion measurements. The electrode mountings are available in seven basic forms with a selection of optional electrodes, measuring devices and temperature compensators to fill a wide variety of requirements.

The catalog number 7773 followed by five suffix numbers provides a unit with either an integrally mounted electrode transmitter or a terminal board for direct measuring instruments which require no electrode signal conditioning. The second suffix determines type (flow through or immersion) and material (stainless steel or plastic). The last two suffixes specify electrodes and automatic temperature compensators for the type measurement and range and the final measuring instrument used.

For convenient installation or removal, the high impedance electrodes are terminated at the electrode cap. All other elements are connected to a terminal board located directly above them. Exceptions are some high impedance electrodes, such as ion selective electrodes, which do not have the terminal caps and the automatic temperature compensators for direct reading recorders.

2. DESCRIPTION

The appearance and construction of these electrode mounts are similar, differing only in the type (flow or immersion) and the material of construction. Parts for the immersion mountings are interchangeable with the flow mountings and plastic parts are directly interchangeable with the corresponding stainless steel part, except threaded connecting ring and mating part. For example, a flow chamber of the flow type mounting can be replaced by an electrode guard to form an immersion unit or vice-versa.

The major components of the housing assembly, as illustrated in drawing D-1577-260-A consist of a plastic or stainless steel cover, plastic or stainless steel connecting ring, electrode support gland (plastic only) and for a flow type mounting a stainless steel or plastic flow chamber and if an immersion assembly, a plastic or stainless steel protector.

The metal parts are type 316 for corrosion resistance and are precision castings to provide maximum strength from a minimum amount of weight and size.

The plastic units are molded of black polypropylene* containing 30% by weight coupled (interlocking) glass fibers, or Ryton with 30% glass fill. It is resistant to chemical attack and has high temperature capabilities, mechanical strength and long term stability. It contains a black ultraviolet light absorber to insure no deterioration when exposed to sunlight and coupled (interlocking) glass fibers for strength and dimensional stability.

The electrode support part performs a primary function in the assembly. The same part is used for all mountings. It contains the electrode retainer which holds the electrodes in place when the unit operates under pressure and provides a mounting base for either the electrode transmitter or a terminal assembly. Three holes with O-ring seats and threads for compression nuts provides the mounting arrangement for the measuring electrode, reference electrode and either automatic temperature compensator for pH measurements or a plug if a hole is unused. An unfilled hole exists when redox measurements or pH measurements with manual temperature compensators are made.

Special dual O-rings under compression are used to form leak proof seals between the electrodes and the electrode support. The O-rings are of low compression-set, high resilient Viton A** material for good sealing and excellent resistance to chemical attack. The dual O-rings are joined to aid in their installation and to hold them in the proper position during compression. Through this arrangement it is possible to effectively seal electrodes having a wide variation in diameters in the electrode support gland while retaining the ability to remove them easily for servicing.

The plastic O-ring washers provide a bearing surface between the O-rings and compression nut to insure against adverse distortion of the O-rings during compression. The washers are made of a low friction polypropylene.

Two large O-rings mounted in grooves on the outside diameter of the electrode support gland form seals with a machined surface in the cover and the flow chamber. In the case of the immersion assembly no seal is required with the open electrode protector since the O-ring functions only as a retainer to aid in assembly. These O-rings are compounded of special soft Viton A** to aid in assembly and disassembly of the gland from its mating parts and are to provide resistance to chemical attack. Slots on the upper and lower surface of the flange on the support gland provide access for a screwdriver to further aid in this disassembly.

Functionally the cover and support gland assembly form an enclosure for the electrode terminations and, when used, the transmitter. They seal and protect against process entry, physical damage and from moisture and other adverse environmental conditions.

*If specified by suffix B plastic may be PPS polyphenylene sulfide.
**Viton A, a duPont tradename, is brown in color. Ethylene-propylene rubber, EPM, can be ordered by part number given in Dwg. D-1577-260-A. The EPM O-rings are black.

The connecting ring holds upper and lower assembly parts together so that their inner surfaces seal against the corresponding O-ring on the electrode support gland. When removing a flow chamber, pressure is automatically released before the threads of this ring disengage.

3. ASSEMBLY OF ELECTRODE MOUNTING

Use D-SPEC-1577-260 and D-1577-260-A to identify and check component parts as removed from the package. CAUTION: The support pipe connection to the upper housing must be leakproof. A tube of pipe sealant (Loctite 92-14, L&N Part 083053) is supplied for use on these threads. DO NOT use a wrench if the housing is plastic. Use of the pipe sealant permits a leakproof connection without the use of a wrench. Carefully cover the support-pipe threads and sample-pipe threads (flow chamber only) with the pipe sealant; then firmly hand-tighten the pipe connection if the housing or the pipe is plastic.

3A. Assembly of Electrode Support

Apply a very thin film of silicone grease to all O-ring surfaces. Mount the large O-rings in the grooves of the support. Place the three dual O-rings in seats provided at the bottom of the three threaded holes and place the three translucent polypropylene washers over the O-rings. Mount the three compression nuts in place, but do not tighten -- the O-rings must not be compressed.

Slowly insert the compensator into one of the holes feeding it through the O-rings. Position it in the support gland so that its top is located in the same plane as the lower shoulder of the undercut in the hex rod. Tighten the compression nut until resistance to moving the compensator in the O-ring is apparent. If no temperature compensator is used, follow this procedure with the plug.

Next, remove the reference electrode from its package. Remove the rubber protector from the tip, wash off any excess salt with tap water, dry with a paper towel. Do not allow grease to come in contact with the porous plug. Install same as the compensator. Replace rubber protector as instructed in the directions for the reference electrode, until used.

Finally, remove the measuring electrode from its package. The pH measuring electrode is glass and requires care in handling. Read the directions for the unit before installing.

> CAUTION: Do not allow grease to coat glass membrane or metal tip. This will cause the electrode to become insensitive and malfunction.

Mount the measuring electrode in the remaining hole following the procedures outlined above. pH electrodes with the connector cap are positioned with the cap shouldered against the compression nut.

Mount the transmitter or terminal assembly to the retainer. Position transmitter (Section 3B) or terminal board (Section 3C) on the retainer so that the eight terminals face in the same direction as the set screw located below the plate.

3B. Mounting Transmitter (Cat. 7773-1)

When a transmitter is used follow the procedures listed below:

(1) If the measuring electrode has the connector cap, loop the wire from the transmitter over the top and mount the lead on the electrode. Do not overtighten.

Mount transmitter-retainer assembly on the hex stud of the support. Orient the retainer in a position so that the setscrew is between the reference electrode and the automatic temperature compensator. The measuring electrode will be behind the terminal board. Tighten set-screw into undercut on the stud. Pull all of the sensors up to where their caps contact with the retainer. Place leads in slots and tighten compression nut as tight as possible by hand.

(2) If the measuring electrode is redox or has an impedance under 10,000 ohms attach the lead from the transmitter to the shorting cable. Attach spade lug of the shorting cable to "TA" on the terminal board (D-ID-1577-260-B). This now becomes the positive input terminal and the R terminal the negative terminal.

3C. Mounting Terminal Board (Cat. 7773-2,-3)

Mount transmitter-retainer assembly same as above. Connect electrodes to proper terminals. If the housing is stainless steel tie the connector to the stud with tape or cord. The connector ring on the connector is at circuit common potential and must not make contact with the cover.

When the terminal board is used the procedure is as follows:

(1) If the measuring electrode has the connector cap, and the adaptor cable is used, first attach the adaptor cable to the electrode and then mount assembly on hex stud as above. Connect to the terminal board as shown in D-ID-1577-260-A, Figures 1, 2, 4 and 5. When the direct reading recorder is used the integral lead on the automatic temperature compensator is pulled through to the remote junction box or instrument.

(2) If the measuring electrode is of the high impedance type and has an integral lead the retainer is positioned so that the slots in the retainer are in line with the elements. The lead is pulled through to a junction box having low-loss insulators or to the terminal board of a direct measuring instrument. Mounting and positioning are the same as above.

(3) If the measuring electrode is of the low impedance type, connections are made according to Figures 3 and 6, drawing D-ID-1577-260-A. Installation and sequence of assembly is same as (2) above.

Complete electrical wiring by attaching interconnecting wires. The wires should be dressed and positioned so that they extend only far enough to permit connection to the terminal board. Position wires from the sensors as close to the center of the retainer as possible. No wire should extend beyond the outside diameter of the retainer.

Complete assembly by lubricating the large O-rings with the silicone grease supplied.

3D. Final Assembly

Insert the assembled electrode support into the cover. Rotate the assembly as the insertion is made to curl the interconnecting leadwire. Make certain that none of the wires loop down over the edge of the retainer disc. This can result in damage to the wire insulation and if the cover is metal it will cause electrical shorts. It will also force the retainer to the side and should any of the metal parts on the retainer, which are all at circuit common potential, make contact with the metal cover it will cause a malfunction due to grounding.

Press support assembly into cover until the flange of the support makes contact with the cover.

If a standard buffer is used to standardize the electrode place the electrode in a buffer near the pH and temperature of the process. Adjust measuring instrument to give proper reading. If the assembly is the flow type, the cover with electrodes are mounted into the flow chamber. To avoid electrode breakage carefully align electrodes and support with the opening of the flow chamber. Slowly force the assembled cover in place -- do not allow it to cock to one side as this may cause damage to the electrodes.

Screw connecting ring to the flow chamber and tighten hand tight. The cover and the flow chamber should now be held tightly against the flange of the electrode support assembly.

If assembly is an immersion unit mount electrode support assembly into cover same as above.

Next assemble the protector onto the electrode support by pressing it onto the O-rings. Screw connecting ring to the protector and tighten hand tight.

The assembly is now ready for use.

4. ELECTRICAL WIRING

There is space in the cover for a length of interconnecting wire which is required to provide the slack necessary to remove the transmitter or terminal assembly to the point where the connecting terminals are exposed.

The transmitter, when specified, converts a high impedance signal to a high level signal for transmission over long distances free from other electrical interferences without the use of special shielded cables. The circuitry of the transmitter includes input filtering which provides high immunity to common mode, "ground loop", or R.F. interferences. Measurements can be made in grounded or ungrounded solutions. The transmitter provides an electrically guarded circuit which reduces the affect of any insulation deterioration on the cap should it occur.

The terminal board and adaptor cables (D-1577-260-A) permits the use of this equipment with the 7070 Series direct-measuring pH Monitors, direct measuring Speedomax® pH Recorders or other existing direct pH measuring instruments. For distances of more than 10 ft, a junction box is required. (D-ID-1577-260-A, Figures 1, 2, 4 and 5).

Low impedance redox electrodes do not require an adaptor cable if the measuring instrument operates directly from the electrodes and not from a transmitter. If a transmitter is used terminate the electrode cable back to the terminal board by using the shorting cable. This is necessary to accommodate both positive and negative redox potentials.

Connection of the reference and measuring electrode leads may have to be interchanged to conform to the polarity of some redox electrode outputs.

Drawings D-ID-1577-260-A and -B and C-ID-1577-260-E and -F show the wiring requirements for the various instruments. D-ID-1577-260-A is for direct measuring instruments and D-ID-1577-260-B covers specifically the 7073 Series Receivers. C-ID-1577-260-E covers the Speedomax M Recorder connections and C-ID-1577-260-F covers the Speedomax H and W Recorder connections. When the measuring electrode is a high impedance electrode such as an ion selective electrode or a pH electrode with an integral lead-wire, it can be used with a 316529 Transmitter Module or with direct-measuring type instruments. For the latter, connections must be made in a Std 3362-2 Junction Box which has low-loss insulation terminals.

5. TO MOUNT ASSEMBLIES

5A. Immersion Assemblies

Immersion assemblies with transmitters or direct measuring redox instruments can be immersed to depths of 200 ft. Units requiring a Std 3362-2 Junction Box are limited to a maximum depth of 10 ft. The support pipe must be large enough to contain the interconnecting wire from the electrode housing assembly. When these leadwires are used a 3/4 IPS pipe must not be heavier than schedule 80. Larger pipes can be used but they must be reduced to 3/4 inch pipe to connect to the assembly.

To avoid cracking the plastic housing, use a plastic support pipe. For either metal or plastic pipe, cover the pipe threads with the Loctite pipe sealant supplied. If either housing or pipe are plastic, hand-tighten the connection. DO NOT use a wrench. Any metal pipe which is not attacked by the sample can be used as a support pipe for the stainless steel assembly.

The outline and dimension information is given on drawing D-DIM-1577-260, and drawings B-1577-260-B, B-1577-260-C, B-1577-260-G, and B-1577-260-I illustrate typical hardware requirements. Note that a flexible section (hose, flexible conduit or open cable) is required to permit removal from sample without disconnecting the wiring.

Any convenient means can be used to mount the assembly as long as it is secure and can be easily withdrawn for servicing. Drawing C-1577-260-F suggests four mounting arrangements. The arrangement in Figure 1 of this drawing permits quick removal. The approach having holes with a securing pin can be produced so that the external moveable pipe is long enough to allow the electrode assembly to clear the top of the tank without the moveable pipe being withdrawn from the pipe fastened to the tank wall. By placing a pin in a hole above the end of the fastened pipe the assembly can be rotated clear of the tank for servicing.

Figure 2 is a practical approach which permits the location of the assembly into almost any part of an open tank. By removing one bolt or clamp and rotating on the other the electrode assembly can be brought to the side of the tank for servicing.

Figure 3 incorporates the use of a flange for a closed vessel. If vessel is pressurized the support pipe can be welded to the flange or sealed in packing.

Figure 4 can be made up in many configurations. It is important that the support pipe be well secured when considerable strain is placed on the assembly due to a highly agitated or viscous sample.

5B. Flow Assemblies

The flow assemblies are dimensionally the same (see D-DIM-1577-260) and are provided with 3/4 NPT female pipe connections for sample line connections and the electrical outlet connection. The assemblies can be supported by the connecting sample pipes or wall mounted by the flow chamber mounting kit provided. Allow a minimum of 8 inch clearance for removal of cover. Plastic pipe is recommended for use with the plastic assembly but if metal pipe must be used wrap the threads well with inert plastic tape and do not overtighten. With appropriate fittings, either hose or tubing can be used for sample lines.

The sample flow rate is 15 gpm. If the sample has a viscosity greater than water, if it carries abrasives, or if its purity is better than 40 micromhos, the flow rate must be lowered. For high purity water (less than 5 microhms) regulate the sample flow rate to less than 800 cc/min. (.47 gpm and discharge to atmospheric).

The flow pattern through the assembly is to enter at the bottom and discharge through the side. Install valves in the inlet and outlet piping, with a bypass if necessary, to permit servicing without shutting down the process.

Electrical connections are made through a 3/4 NPT female connector in the cover. Hardware arrangements are shown in drawings B-1577-260-D, B-1577-260-E, B-1577-260-H and B-1577-260-J.

6. MAINTENANCE

Normal maintenance consists of standardizing the system and cleaning the electrodes. The interval between these operations depends upon the nature of the sample, whether it is clean or not, and the accuracy required.

6A. Standardizing

An instrument can be standardized in two ways. One common approach is to take a grab sample from the process and measure this on a second instrument which has previously been standardized against a standard buffer. Observe the reading of the process instrument at the time the sample is taken. Try to collect the sample from an area near the electrode to make certain it represents the pH the process electrodes are sampling. Measure the sample on the second instrument and adjust the process instrument by the difference between this reading and the reading observed at the time the sample was taken.

The second approach is to place the electrodes from the housing directly into a standard buffer having a pH value and temperature near that of the process. Adjust the measuring instrument to read the value of the standard buffer.

6B. Disassembly

To expose electrodes remove the flow chamber or protector. In the case of the flow assembly, first release any process pressure. Next remove the connector ring and slide it up to the top of the cover. Place a screwdriver in the slot between the support flange and the flow chamber or protector and pry them apart. Slots are provided at opposite sides of the flange for this purpose. Separation is made by alternately prying on one side and then the other. When disassembling the flow type assembly hold onto the cover with one hand to make certain it does not tilt and damage electrodes. When the unit is an immersion assembly secure the unit by the support pipe and hold onto the protector as it is removed.

Separation of the cover from the flange assembly is done in the same manner. Always protect the support assembly with the electrodes during these operations.

6C. Cleaning

If the sample contains materials that coat the electrodes or if the process has precipitation taking place and the precipitants adhere to the electrodes it is necessary to establish a schedule for cleaning. Disassemble as in Section 6B. and clean the electrodes with water, detergents or dilute acids. See directions for the electrodes for details.

When reassembling the unit make certain that no salts or other granular matter is on the O-rings or the contacting surfaces of the O-ring. If an electrode or compensator is removed make certain the unit, the O-ring and the O-ring seats are clean before reassembling. After cleaning, coat surfaces of the O-rings as described in Section 3A.

6D. Care of Transmitter Measuring Electrode Connector

The guarded-circuit feature works to eliminate leakage in the high impedance input; however, to insure good operation, it is important to protect the inside of the connector from moisture and dirt. When not in use, attach the connector to the shorting plug to keep it clean. Do not touch the center contact of the connector with bare hands, as body oils and salts can cause contamination.

To clean the connector, use a toothbrush and scrub with Ivory Soap or clear detergent. Rinse thoroughly with water and allow to dry. In some cases, ACS Grade 99.9% isopropyl alcohol is effective as a cleaner. A cotton swab or cotton ball can be used, but all lint and fibers must be rinsed off before using.

7. ACCESSORIES

7A. Accessories for 7773-1 Series. (See drawings B-1577-260-B, D-ID-1577-260-B, B-1577-260-E, B-1577-260-G and B-1577-260-H.)

(1)	22-34.28	- 6-Conductor Cable, length as specified.
(2)	072683	- Cable Grips (aluminum body) (2 required)
(3)	316260	- Junction Box (required when it is not desirable to run a continuous lead from transmitter to instrument for measuring transmitted signal
(4)	276198	- Hose Adapter* (2 required)
(5)	72-6-0-2	- Hose Clamp* (2 required)
(6)	22.8-1	- 3/4" I.D. Rubber Hose*, length as specified.

7B. Accessories for 7773-2 Series. (See drawings D-ID-1577-260-A, B-1577-260-C, B-1577-260-D, B-1577-260-I and B-1577-260-J.)

(1)	22-35.3 Low-loss Coaxial Cable for interplant connections.	(Specify length between junction box and direct reading instrument.)
(2)	18-33.6 2-Conductor Cable for automatic temperature compensator for 7070 or 7678 Monitor.	(Specify length as in Section 7B (1).)
(3)	18-34.5 3-Conductor Cable for automatic temperature compensator for Direct Measuring pH Speedomax Recorders.	(Specify length as in Section 7B (1).)

8. MAINTENANCE KIT

Includes: 2 measuring electrodes, plastic reference junction, reference electrode dry charge, 3 pint buffer solution, set of Viton o-rings and washers, 1 compression nut, 1 beaker.

324441	Kit with two 117389, -5 to +40 C pH Measuring Electrodes
324442	Kit with two 117390, 10 to 80 C pH Measuring Electrodes
324443	Kit with two 117391, 40 to 110 C pH Measuring Electrodes

* The hose clamps and hose adapters can be used in place of the cable grips to provide greater protection to the cable.

CAT. 7773 — [ ] — [ ] — [ ] — [ ] — [ ]

TRANSMITTER — SUFFIX "A"

ELECTRODE MOUNTING — SUFFIX "B"

ELECTRODES — SUFFIX "C"

TEMPERATURE COMPENSATOR — SUFFIX "D"

TAGGING — SUFFIX "E"

MAT'L REQUIRED FOR ALL CAT. NO'S

PART	QTY	DESCRIPTION
027591	1	RETAINER
003495	3	COMPRESSION NUT
082124	3	DUAL O-RING (VITON) (SEE ENGR NOTE # 3)
301393	3	O-RING WASHERS
082122	2	O-RINGS (LARGE - VITON) (SEE ENGR NOTE # 3)
090011	1	SILICONE GREASE
177724	1	DIRECTIONS
083053	1	PIPE SEALANT
	1	LITHO COPY OF D-SPEC-1577-260 (SEE NOTE 2)
	1	LITHO COPY OF DWG. D-1577-260-A
194965	1	LABEL (SEE NOTE # 3)

WHEN SUFFIX "A" IS 1

PART	QTY	DESCRIPTION
101316	1	TRANSMITTER
040874	1	SHORTING CABLE
327289	1	SUPPORT

WHEN SUFFIX "A" IS 2

PART	QTY	DESCRIPTION
316474	1	TERMINAL ASSEMBLY
240849	1	ADAPTER CABLE
337633	1	12 FOOT CABLE
327289		SUPPORT

WHEN SUFFIX "A" IS 3

PART	QTY	DESCRIPTION
316474	1	TERMINAL ASSEMBLY
327289	1	SUPPORT

WHEN SUFFIX "A" IS 4

101316	1	TRANSMITTER
040874	1	SHORTING CABLE
327608	1	SUPPORT
016525	1	FITTING
321342	1	THERMOCOUPLE

WHEN SUFFIX "B" IS 1

PART	QTY	DESCRIPTION
267895	1	COVER (POLYPROPYLENE)
182141	1	FLOW CHAMBER (POLYPRO)
128742	1	RING (POLYPROPYLENE)
324438	1	MOUNTING KIT

WHEN SUFFIX "B" IS 2

267895	1	COVER (POLYPROPYLENE)
095272	1	PROTECTOR (POLYPRO)
128742	1	RING (POLYPROPYLENE)

WHEN SUFFIX "B" IS 3

267885	1	COVER (STAINLESS STEEL)
182124	1	FLOW CHAMBER (STAIN. STL.)
128735	1	RING (STAINLESS STEEL)
324438	1	MOUNTING KIT

WHEN SUFFIX "B" IS 4

267885	1	COVER (STAINLESS STEEL)
095271	1	PROTECTOR (STAIN. STL.)
128735	1	RING (STAINLESS STEEL)

WHEN SUFFIX "B" IS 5

267895	1	COVER (POLYPROPYLENE)
182124	1	FLOW CHAMBER (STAIN. STL.)
128735	1	RING (STAINLESS STEEL)
324438	1	MOUNTING KIT

WHEN SUFFIX "B" IS 6

267446	1	COVER (PPS)
095305	1	PROTECTOR (PPS)
128749	1	RING (PPS)

WHEN SUFFIX "B" IS 7

267446	1	COVER (PPS)
182157	1	FLOW CHAMBER (PPS)
128749	1	RING (PPS)
324438	1	MOUNTING KIT

(PPS) POLYPHENYLENE SULFIDE

WHEN SUFFIX "C" IS 00

DO NOT SUPPLY ELECTRODES

WHEN FIRST DIGIT IS "0" & SECOND DIGIT IS OTHER THAN "0"

PART	QTY	DESCRIPTION
117392	1	REFERENCE ELECT. (EPOXY)

WHEN FIRST DIGIT IS "1" & SECOND DIGIT IS OTHER THAN "0"

117300	1	REFERENCE ELECT (GLASS)

WHEN FIRST DIGIT IS "2" & SECOND DIGIT IS OTHER THAN "0"

117481	1	REFERENCE ELECTRODE (GEL FILLED EPOXY)

WHEN FIRST DIGIT IS "3" & SECOND DIGIT IS OTHER THAN "0"

117484	1	REFERENCE ELECTRODE (GEL FILLED GLASS)

WHEN SECOND DIGIT IS "1"

PART	QTY	DESCRIPTION
117389	1	pH MEAS. ELECT. -5° TO +40°C

WHEN SECOND DIGIT IS "2"

117390	1	pH MEAS. ELECT. 10° TO 80°C

WHEN SECOND DIGIT IS "3"

117391	1	pH MEAS. ELECT. 40° TO 110°C

WHEN SECOND DIGIT IS "4"

117419	1	GOLD TIP REDOX ELECT.

WHEN SECOND DIGIT IS "5"

117420	1	SILVER TIP REDOX ELECT.

WHEN SECOND DIGIT IS "6"

117418	1	PLATIUM TIP REDOX ELECT.

WHEN SECOND DIGIT IS "7"

117399	1	ANTIMONY TIP pH ELECT

WHEN SECOND DIGIT IS "8"

117485	1	FLUORIDE ION ELECT.

WHEN SUFFIX "D" IS 0

PART	QTY	DESCRIPTION
NONE		

WHEN SUFFIX "D" IS 1

109068	1	PLUG

WHEN SUFFIX "D" IS 2

152137	1	TEMP COMPENSATOR (EPOXY)

WHEN SUFFIX "D" IS 3

352145	1	TEMP. COMPENSATOR (GLASS)

WHEN SUFFIX "D" IS 4

152139	1	TEMP. COMPENSATOR (GLASS) (EQUIVALENT TO 152137)

WHEN SUFFIX "E" IS 000

DO NOT SUPPLY LABEL OR TAGS

WHEN SUFFIX "E" IS 205

LABEL SUPPLIED PER SPEC. 1577-260-205

WHEN SUFFIX "E" IS 206

LINEN TAG SUPPLIED PER SPEC. 1577-260-206

WHEN SUFFIX "E" IS 207

ALUMINUM TAG SUPPLIED PER SPEC. 1577-260-207

WHEN SUFFIX "E" IS 208

STAINLESS STEEL TAG SUPPLIED PER SPEC. 1577-260-208

NOTES

1. SELECT MATERIAL FOR CAT NO FROM L & N ORDER.
2. SUPPLY (1) LITHO COPY OF THIS SPEC. (D-SPEC. 1577-260) WITH CAT NO SUFFIX BLANKS FILLED IN WITH APPROPRIATE NUMBERS OBTAINED FROM L & N ORDER CARD.
3. MOUNT LABEL ON COVER AS SHOWN ON LITHO COPY OF DWG D-1577-260-A.

ENG NOTES

1. WIRING DIAGRAM PER DWG D-ID-1577-260-A & D-ID-1577-260-B.
2. OUTLINE & DIMENSIONS PER DWG. D-DIM-1577-260.
3. AVAILABLE IN ETHYLENE-PROPYLENE RUBBER (E.P.M.) ((3) 082152 , (2) 082151) AS SEPARATE ITEMS

ISSUE	DATE	REVISION NO	ZONE	APPROVAL
F	6-4-76	C129		
E	1-26-76	C117		
4	9-20-73	15		

TEMPORARY APPROVAL ☐ FINAL APPROVAL ☐

DRAWN F.O. | CHECKED | ENG. APPR. | DATE 9-19-73 | DESIGNED | DATE

FIRST MADE FOR L&N ORDER NO. LN

CAT. 7773-□-□-□-□-□

ELECTRODE MOUNTING ASSEMBLIES

DWG. NO. D-SPEC-1577-260

SH. NO. 1 NO. SH. 1

LITHOS

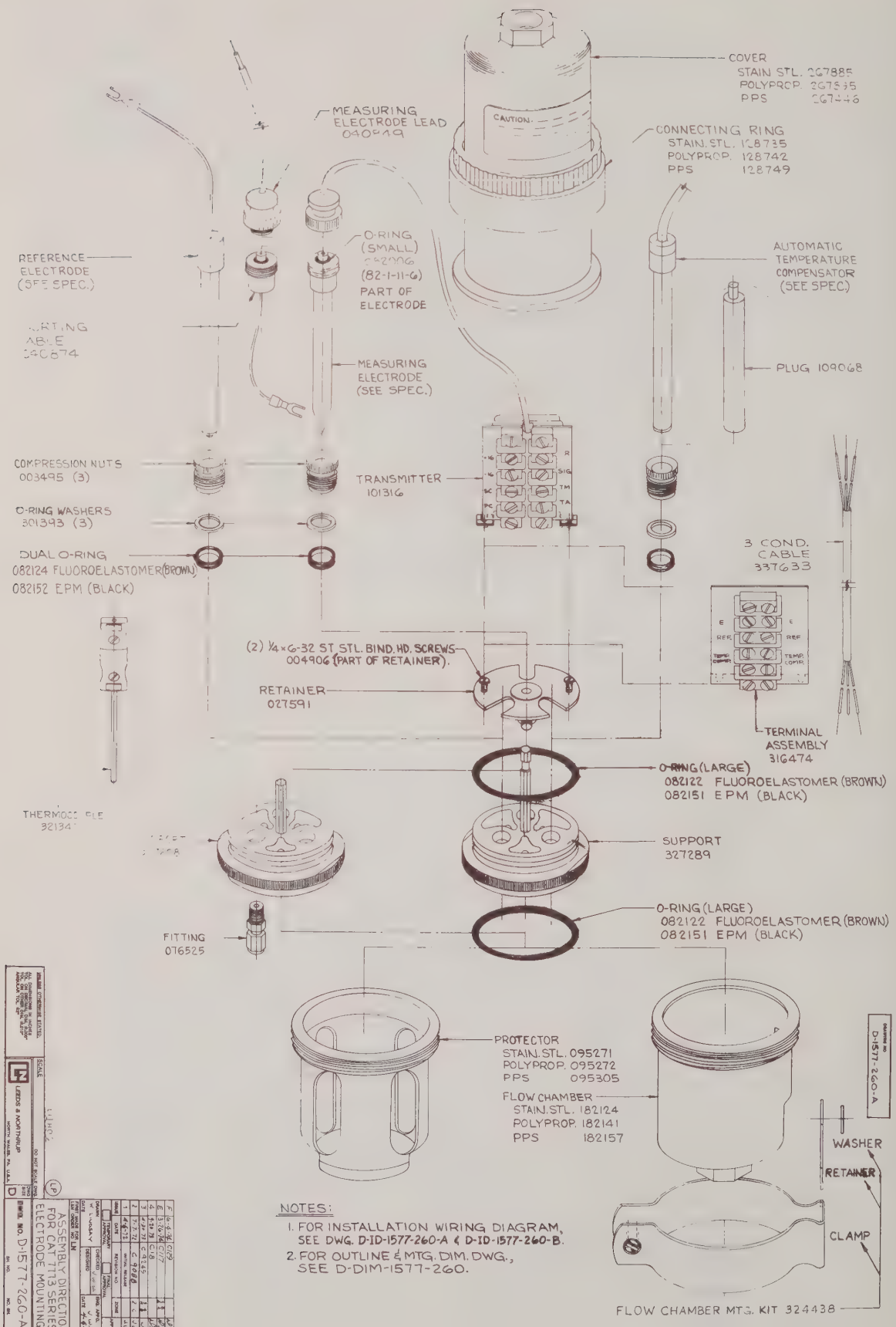
UNLESS OTHERWISE STATED: ALL DIMENSIONS IN INCHES TOL. ON DECIMALS: 0 PL ±.030" 1 PL ±.010" 2 PL ±.005" 3 PL ±.002" ANGULAR TOL. ±2°

SCALE — DO NOT SCALE DWG.

LEEDS & NORTHRUP NORTH WALES, PA. U.S.A.

DWG. SIZE D

A



NOTES:

1. FOR INSTALLATION WIRING DIAGRAM, SEE DWG. D-ID-1577-260-A & D-ID-1577-260-B.
2. FOR OUTLINE & MTG. DIM. DWG., SEE D-DIM-1577-260.

ASSEMBLY DIRECTIONS FOR CAT 7773 SERIES ELECTRODE MOUNTINGS

DRAWING NO. D-1577-260-A

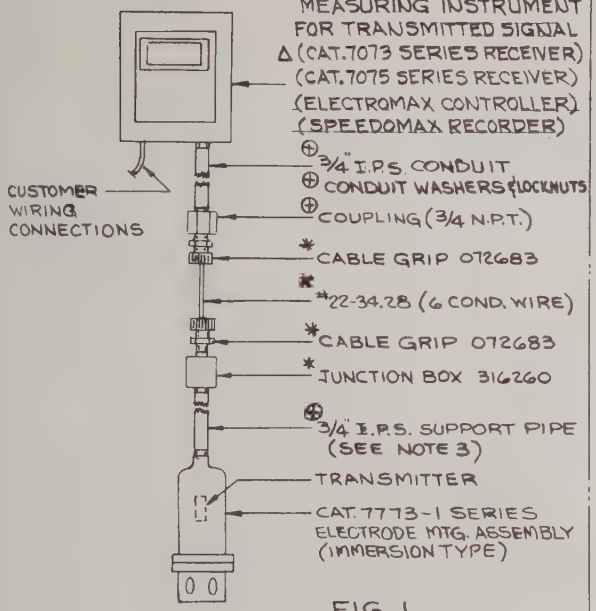


FIG. 1

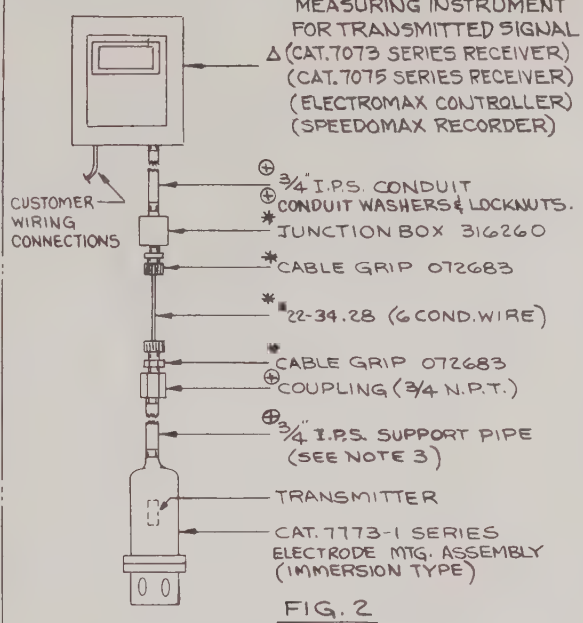


FIG. 2

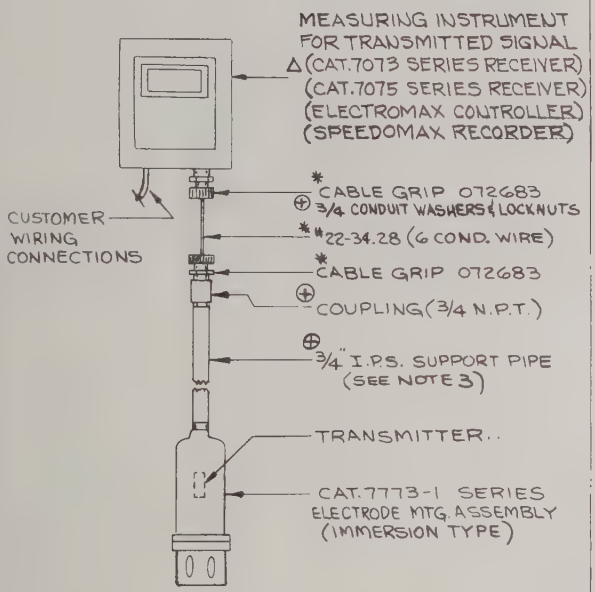


FIG. 3

CUSTOMER'S NOTES:

1. "⊕" INDICATES PARTS SUPPLIED BY CUSTOMER.
2. "*" INDICATES PARTS MAY BE OBTAINED ON L&N ORDER USING PART NO. SHOWN.
3. WHEN MTG. ASSEMBLY COVER IS STAINLESS STEEL USE STAINLESS STEEL PIPE.
   WHEN MTG. ASSEMBLY COVER IS PLASTIC USE PLASTIC PIPE.
4. FOR INSTALLATION WIRING DIAGRAM, SEE D-ID-1577-260-A.
5. "Δ" WHEN NEMA 4 RATING IS REQUIRED, CUSTOMER TO SUPPLY WATERTIGHT SEALS FOR ELECTRICAL INLETS TO 7073 SERIES RECEIVER.

NO.	DATE	APPD.	REVISIONS
A	3-26-72	W.L.D.	C117

SUGGESTED COMPONENT ARRANGEMENT FOR INSTALLATION OF CAT. 7773-1 SERIES ELECTRODE MTG. ASSEMBLY (IMMERSION TYPE)

DRAWN	CHECKED	APPROVED
W. LINDSAY	J.W.W. 3-27-72	J.W.W.
DESIGNED	DESIGN APPROVED	DATE 4-6-72

FIRST MADE FOR L&N ORDER NO. LN

(LP)

DWG. NO. B-1577-260-B

UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES
~~TOL. ON DECIMAL DIM. ± .005"~~
~~TOL. ON ODD'S DIM. ± .010"~~

SCALE

DO NOT SCALE DWG.

LEEDS & NORTHRUP
NORTH WALES, PA. U.S.A.

FORM 62-15-0A

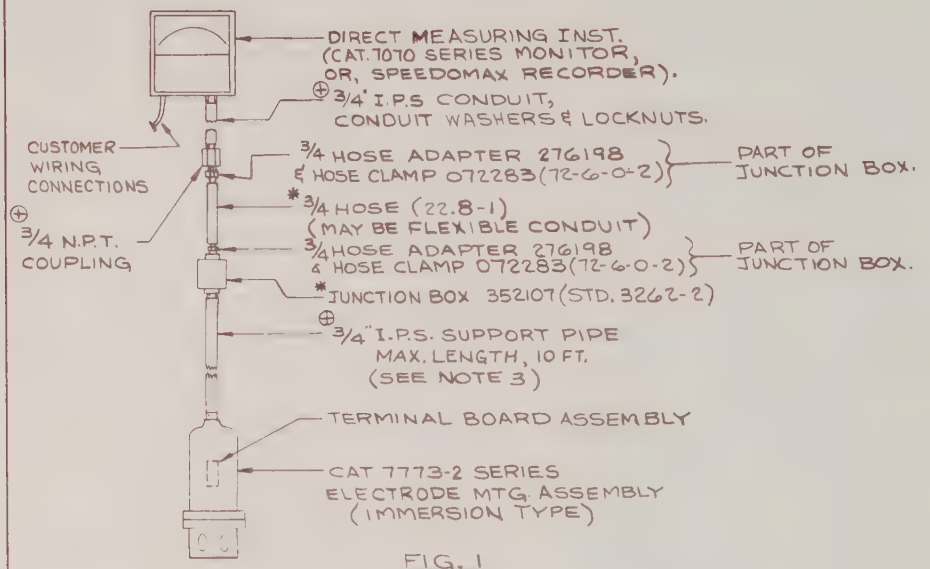

DIRECT MEASURING INST. (CAT. 7070 SERIES MONITOR, OR, SPEEDOMAX RECORDER).
⊕ 3/4" I.P.S CONDUIT, CONDUIT WASHERS & LOCKNUTS.
CUSTOMER WIRING CONNECTIONS
3/4 HOSE ADAPTER 276198 & HOSE CLAMP 072283(72-6-0-2)
PART OF JUNCTION BOX.
* 3/4 HOSE (22.8-1) (MAY BE FLEXIBLE CONDUIT)
⊕ 3/4 N.P.T. COUPLING
3/4 HOSE ADAPTER 276198 & HOSE CLAMP 072283(72-6-0-2)
PART OF JUNCTION BOX.
* JUNCTION BOX 352107 (STD. 3262-2)
⊕ 3/4" I.P.S. SUPPORT PIPE MAX. LENGTH, 10 FT. (SEE NOTE 3)
TERMINAL BOARD ASSEMBLY
CAT 7773-2 SERIES ELECTRODE MTG. ASSEMBLY (IMMERSION TYPE)

FIG. 1

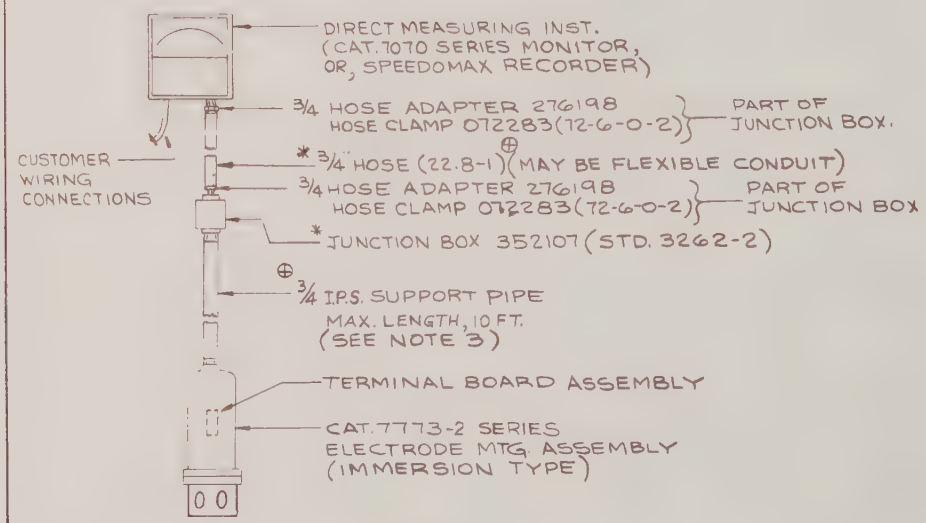

DIRECT MEASURING INST. (CAT. 7070 SERIES MONITOR, OR, SPEEDOMAX RECORDER)
3/4 HOSE ADAPTER 276198 HOSE CLAMP 072283(72-6-0-2)
PART OF JUNCTION BOX.
CUSTOMER WIRING CONNECTIONS
* ⊕ 3/4" HOSE (22.8-1) (MAY BE FLEXIBLE CONDUIT)
3/4 HOSE ADAPTER 276198 HOSE CLAMP 072283(72-6-0-2)
PART OF JUNCTION BOX
* JUNCTION BOX 352107 (STD. 3262-2)
⊕ 3/4 I.P.S. SUPPORT PIPE MAX. LENGTH, 10 FT. (SEE NOTE 3)
TERMINAL BOARD ASSEMBLY
CAT. 7773-2 SERIES ELECTRODE MTG. ASSEMBLY (IMMERSION TYPE)

FIG. 2

CUSTOMER'S NOTES:

1. ⊕ INDICATES PARTS SUPPLIED BY CUSTOMER.
2. * INDICATES PARTS MAY BE OBTAINED ON L&N ORDER USING PART NUMBER SHOWN.
3. WHEN MTG. ASSEMBLY COVER IS STAINLESS STEEL USE STAINLESS STEEL PIPE (10 FT. MAX. LENGTH).

   WHEN MTG. ASSEMBLY COVER IS PLASTIC USE PLASTIC PIPE. (10 FT. MAX. LENGTH).
4. FOR INSTALLATION WIRING DIAGRAM, SEE DWG. D-ID-1577-260-A

NO.	DATE	APPD.	REVISIONS

SUGGESTED COMPONENT ARRANGEMENT FOR INSTALLATION OF CAT. 7773-2 SERIES ELECTRODE MTG. ASSEMBLY (IMMERSION TYPE)

DRAWN	CHECKED	APPROVED
W. LINDSAY	3-14-72 J.W.W.	J.W.W.
DESIGNED	DESIGN APPROVED	DATE 4-6-72

FIRST MADE FOR L&N ORDER NO. LN

(LP)

DWG. NO. B-1577-260-C

UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES
~~TOL. ON DECIMAL DIM. ± .005"~~
~~TOL. ON OTHER DIM. ± .010"~~

SCALE

DO NOT SCALE DWG.

LEEDS & NORTHRUP
NORTH WALES, PA. U.S.A.

FORM 62-16-0A

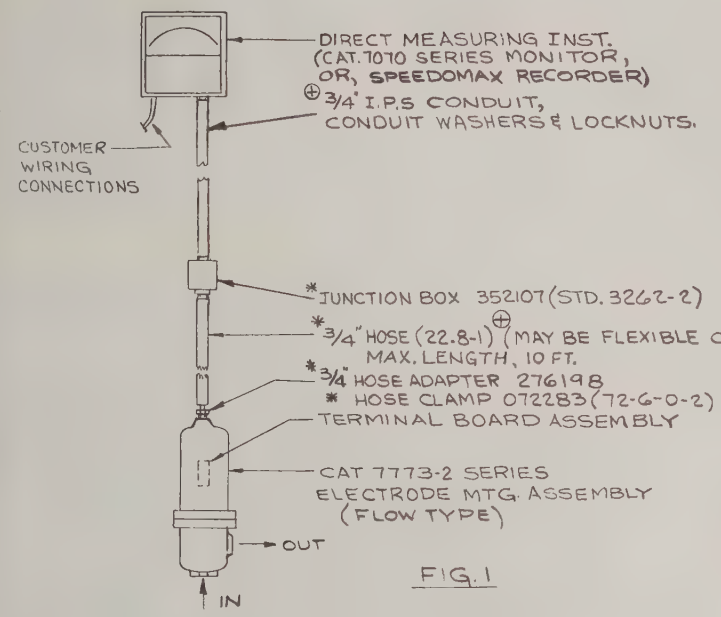


FIG. 1

THIS ARRANGEMENT FOR USE WHEN THE DIRECT MEASURING INST. IS MOUNTED MORE THAN 10 FT. FROM THE ELECTRODE MTG. ASSEMBLY.

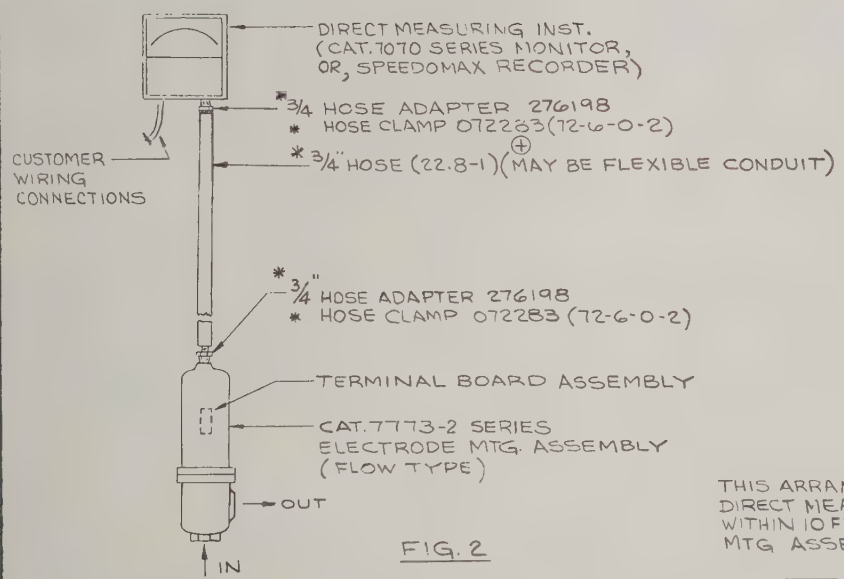


FIG. 2

THIS ARRANGEMENT FOR USE WHEN THE DIRECT MEASURING INST. IS MOUNTED WITHIN 10 FT. OF THE ELECTRODE MTG ASSEMBLY.

CUSTOMER'S NOTES:

1. ⊕ INDICATES PARTS SUPPLIED BY CUSTOMER.
2. * INDICATES PARTS MAY BE OBTAINED ON L&N ORDER USING PART NUMBER SHOWN.
3. FOR INSTALLATION WIRING DIAGRAM, SEE DWG D-ID-1577-260-A.

NO.	DATE	APPD.	REVISIONS

SUGGESTED COMPONENT ARRANGEMENT FOR INSTALLATION OF CAT. 7773-2 SERIES ELECTRODE MTG. ASSEMBLY (FLOW TYPE)

DRAWN W. LINDSAY	CHECKED 3-14-72 J.W.W.	APPROVED J.W.W.
DESIGNED	DESIGN APPROVED	DATE 4-6-72

FIRST MADE FOR L&N ORDER NO. LN

(LP)

DWG. NO. B-1577-260-D

UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES
~~TOL. ON DECIMAL DIM. ± .005"~~
~~TOL. ON OTHER DIM. ± .010"~~

SCALE

DO NOT SCALE DWG.

LEEDS & NORTHRUP
NORTH WALES, PA. U.S.A.

FORM 82-18-0A

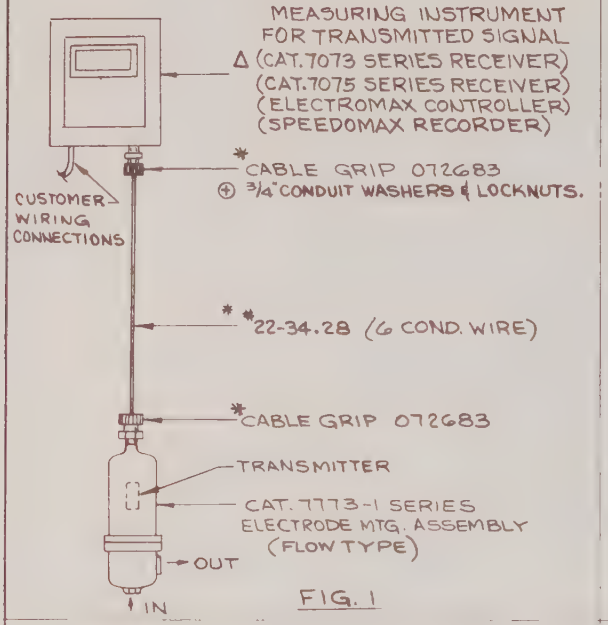


FIG. 1

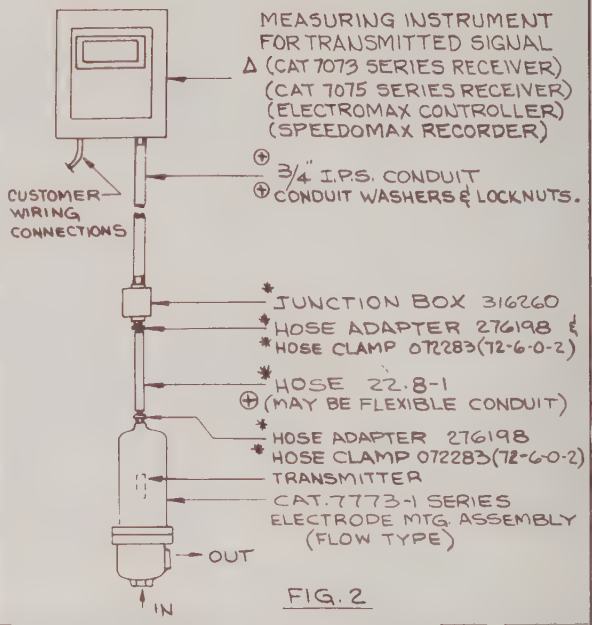


FIG. 2

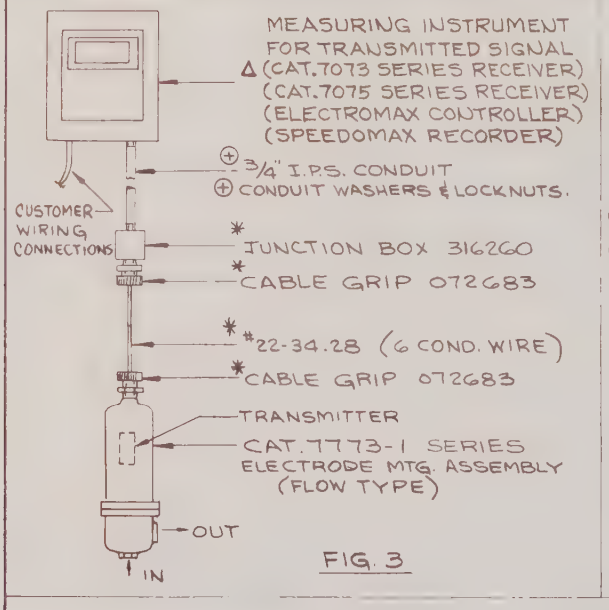


FIG. 3

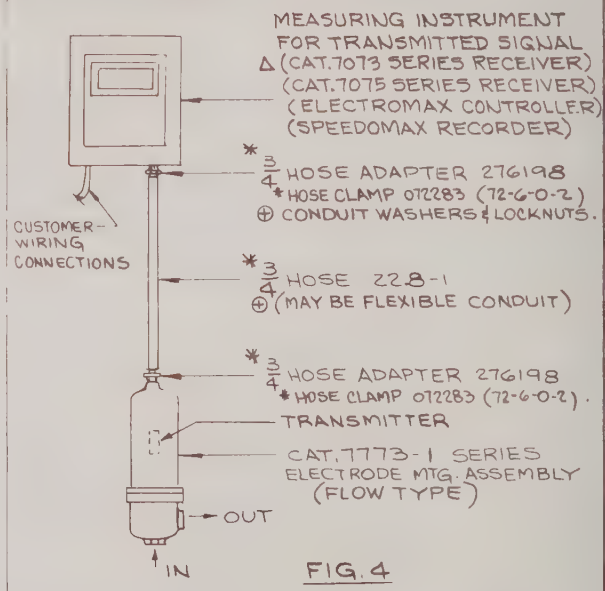


FIG. 4

CUSTOMER'S NOTES:

1. "⊕" INDICATES PARTS SUPPLIED BY CUSTOMER.
2. "*" INDICATES PARTS MAY BE OBTAINED ON L&N ORDER USING PART NO. SHOWN.
3. WHEN MTG. ASSEMBLY COVER IS STAINLESS STEEL, USE STAINLESS STEEL PIPE.
   WHEN MTG. ASSEMBLY COVER IS PLASTIC, USE PLASTIC PIPE.
4. FOR INSTALLATION WIRING DIAGRAM, SEE DWG. D-ID-1577-260-B
5. "Δ" WHEN NEMA 4 RATING IS REQUIRED, CUSTOMER TO SUPPLY WATER TIGHT SEALS FOR ELECTRICAL INLETS TO 7073 SERIES RECEIVER

NO.	DATE	APPD.	REVISIONS
A	3-26-74	[illegible]	C117

SUGGESTED COMPONENT ARRANGEMENT FOR INSTALLATION OF CAT. 7773-1 SERIES ELECTRODE MTG. ASSEMBLY (FLOW TYPE)

DRAWN W. LINDSAY	CHECKED 3-14-72 J.W.W.	APPROVED J.W.W
DESIGNED	DESIGN APPROVED	DATE 4-6-72

FIRST MADE FOR L&N ORDER NO. LN

(LP)

DWG. NO. B-1577-260-E

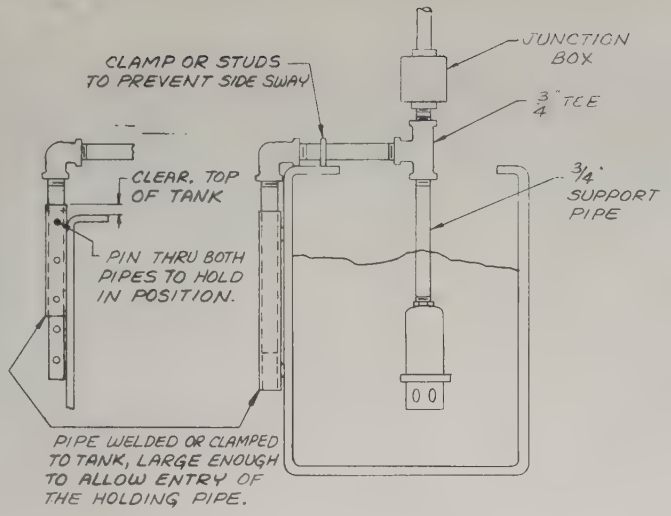
UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES
~~TOL. ON DECIMAL DIM. ± .005"~~
~~TOL. ON OTHER DIM. ± 1/64"~~

SCALE

DO NOT SCALE DWG.

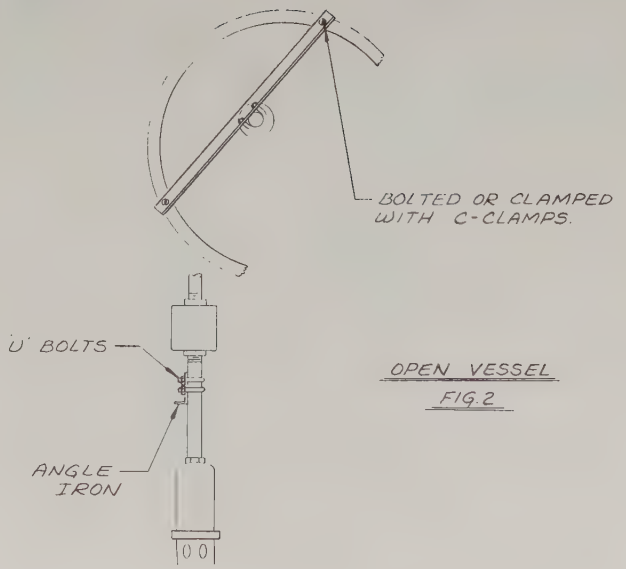
LEEDS & NORTHRUP
NORTH WALES, PA. U.S.A.

FORM 62-18-0A


CLAMP OR STUDS TO PREVENT SIDE SWAY
JUNCTION BOX
3/4" TEE
CLEAR. TOP OF TANK
3/4" SUPPORT PIPE
PIN THRU BOTH PIPES TO HOLD IN POSITION.
PIPE WELDED OR CLAMPED TO TANK, LARGE ENOUGH TO ALLOW ENTRY OF THE HOLDING PIPE.

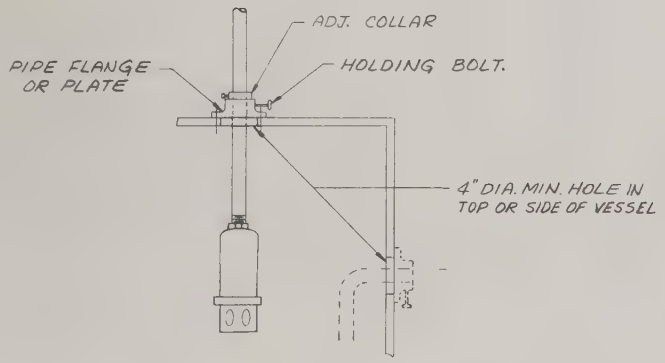
OPEN VESSEL

FIG. 1



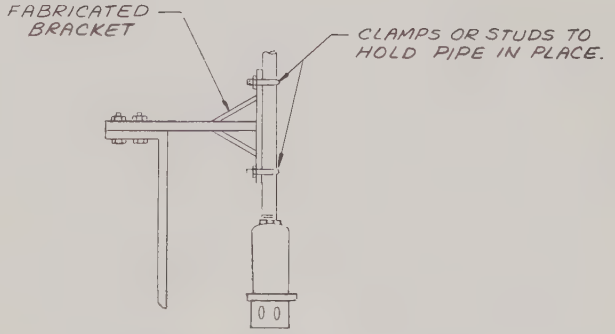
OPEN VESSEL

FIG. 2



CLOSED VESSEL

FIG. 3



OPEN VESSEL

FOR HIGHLY AGITATED OR VISCOUS MATERIAL

FIG. 4

NO.	DATE	APPD.	REVISIONS

SUGGESTED MTG. ARRANGEMENT FOR CAT. 7773 SERIES ELECTRODE MTG. ASSEM. (IMMERSION TYPE)

DRAWN	CHECKED	APPROVED
W. LINDSAY	J.W.W.	J.W.W.
DESIGNED	DESIGN APPROVED	DATE 4-6-72

FIRST MADE FOR L&N ORDER NO. IN

DWG. NO. C-1577-260-F

UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES
TOL ON DECIMAL DIM ±.005"
TOL ON OTHER DIM. ±.010"

SCALE

DO NOT SCALE DWG.

LEEDS & NORTHRUP
NORTH WALES, PA. U.S.A.

FORM 62.15-04

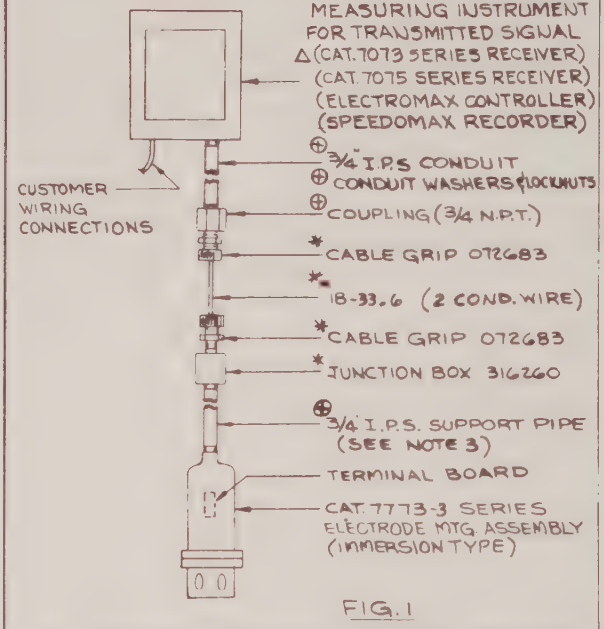


FIG. 1

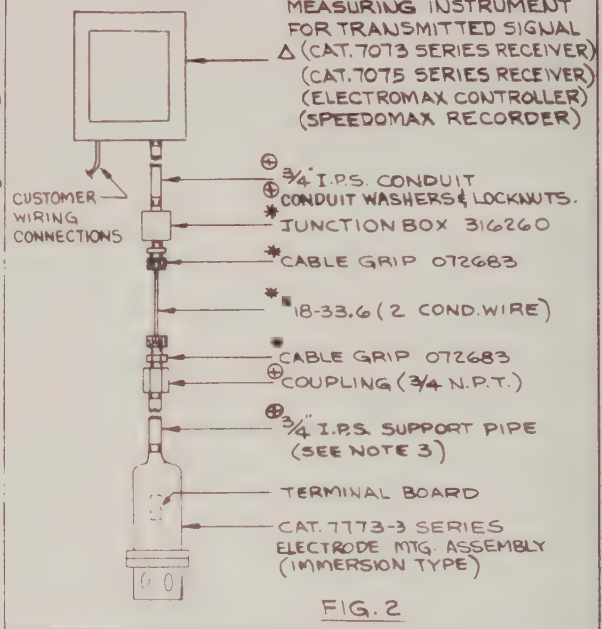


FIG. 2

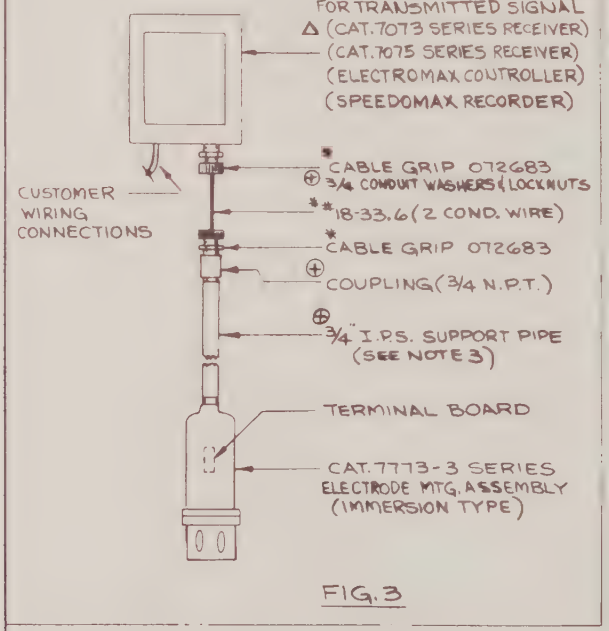


FIG. 3

CUSTOMER'S NOTES:

1. "⊕" INDICATES PARTS SUPPLIED BY CUSTOMER.
2. "*" INDICATES PARTS MAY BE OBTAINED ON L&N ORDER USING PART NO. SHOWN.
3. WHEN MTG. ASSEMBLY COVER IS STAINLESS STEEL USE STAINLESS STEEL PIPE.
   WHEN MTG. ASSEMBLY COVER IS PLASTIC USE PLASTIC PIPE.
4. FOR INSTALLATION WIRING DIAGRAM, SEE D-ID-1577-260-A
5. "Δ" WHEN NEMA 4 RATING IS REQUIRED, CUSTOMER TO SUPPLY WATERTIGHT SEALS FOR ELECTRICAL INLETS TO 7073 SERIES RECEIVER
6. FOR SUGGESTED MTG ARRANGMENTS, SEE C-1577-260-F

NO.	DATE	APPD	REVISIONS
A	3-26-74	W.R.N.	C117

SUGGESTED COMPONENT ARRANGEMENT FOR INSTALLATION OF CAT. 7773-3 SERIES ELECTRODE MTG. ASSEMBLY (IMMERSION TYPE) FOR REDOX MEAS.

DRAWN	CHECKED	APPROVED
W. LINDSAY	J.W.W.	J.W.W.
DESIGNED	DESIGN APPROVED	DATE 4-6-72

FIRST MADE FOR L&N ORDER NO. LN

LP

DWG. NO. B-1577-260-G

UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES
~~TOL. ON DECIMAL DIM. ± .005"~~
~~TOL. ON OTHER DIM. ± 1/16"~~

SCALE

DO NOT SCALE DWG.

LEEDS & NORTHRUP
NORTH WALES, PA. U.S.A.

Form 68-10-0A

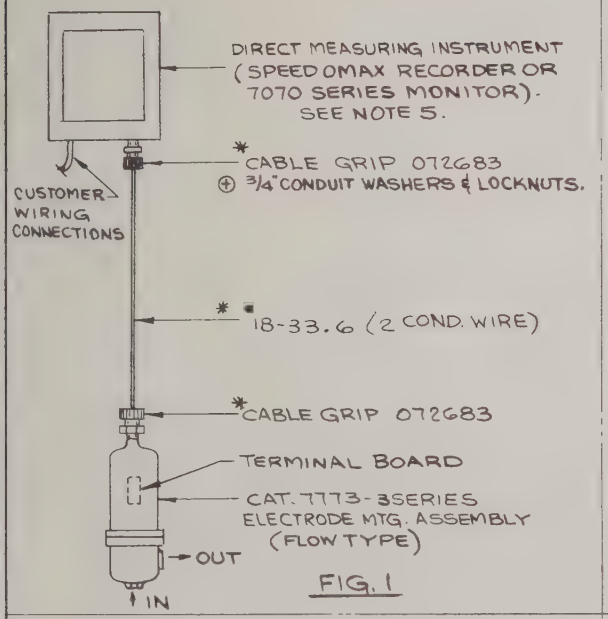

DIRECT MEASURING INSTRUMENT (SPEEDOMAX RECORDER OR 7070 SERIES MONITOR). SEE NOTE 5.
* CABLE GRIP 072683
⊕ 3/4" CONDUIT WASHERS & LOCKNUTS.
CUSTOMER WIRING CONNECTIONS
* 18-33.6 (2 COND. WIRE)
* CABLE GRIP 072683
TERMINAL BOARD
CAT. 7773-3 SERIES ELECTRODE MTG. ASSEMBLY (FLOW TYPE)
OUT
IN

FIG. 1

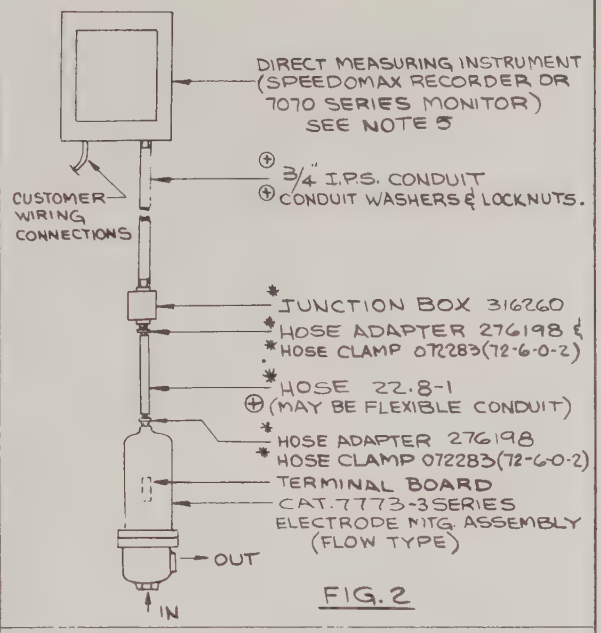

DIRECT MEASURING INSTRUMENT (SPEEDOMAX RECORDER OR 7070 SERIES MONITOR) SEE NOTE 5
⊕ 3/4" I.P.S. CONDUIT
⊕ CONDUIT WASHERS & LOCKNUTS.
CUSTOMER WIRING CONNECTIONS
* JUNCTION BOX 316260
* HOSE ADAPTER 276198 &
* HOSE CLAMP 072283 (72-6-0-2)
* HOSE 22.8-1
⊕ (MAY BE FLEXIBLE CONDUIT)
* HOSE ADAPTER 276198
* HOSE CLAMP 072283 (72-6-0-2)
TERMINAL BOARD
CAT. 7773-3 SERIES ELECTRODE MTG. ASSEMBLY (FLOW TYPE)
OUT
IN

FIG. 2

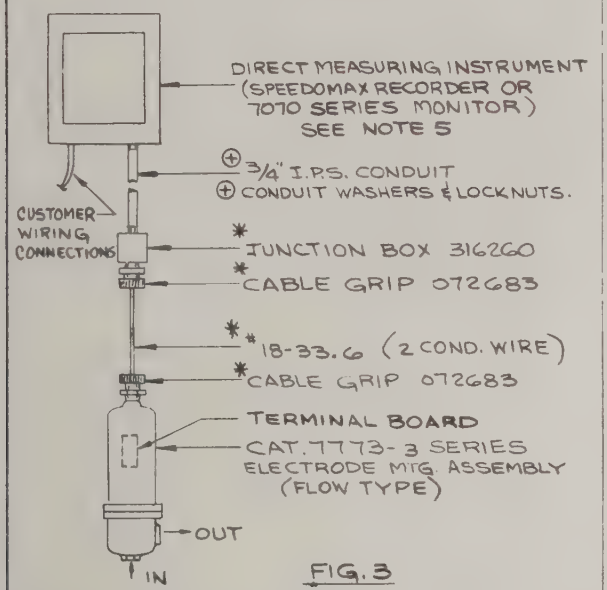

DIRECT MEASURING INSTRUMENT (SPEEDOMAX RECORDER OR 7070 SERIES MONITOR) SEE NOTE 5
⊕ 3/4" I.P.S. CONDUIT
⊕ CONDUIT WASHERS & LOCKNUTS.
CUSTOMER WIRING CONNECTIONS
* JUNCTION BOX 316260
* CABLE GRIP 072683
* * 18-33.6 (2 COND. WIRE)
* CABLE GRIP 072683
TERMINAL BOARD
CAT. 7773-3 SERIES ELECTRODE MTG. ASSEMBLY (FLOW TYPE)
OUT
IN

FIG. 3

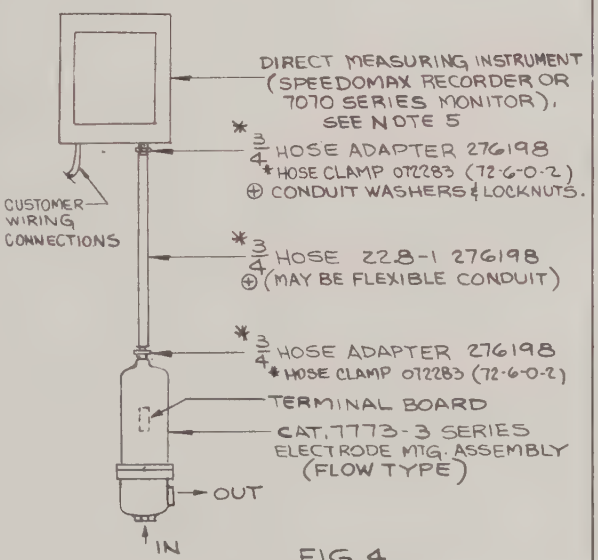

DIRECT MEASURING INSTRUMENT (SPEEDOMAX RECORDER OR 7070 SERIES MONITOR), SEE NOTE 5
* 3/4 HOSE ADAPTER 276198
* HOSE CLAMP 072283 (72-6-0-2)
⊕ CONDUIT WASHERS & LOCKNUTS.
CUSTOMER WIRING CONNECTIONS
* 3/4 HOSE 22.8-1 276198
⊕ (MAY BE FLEXIBLE CONDUIT)
* 3/4 HOSE ADAPTER 276198
* HOSE CLAMP 072283 (72-6-0-2)
TERMINAL BOARD
CAT. 7773-3 SERIES ELECTRODE MTG. ASSEMBLY (FLOW TYPE)
OUT
IN

FIG. 4

CUSTOMER'S NOTES:

1. "⊕" INDICATES PARTS SUPPLIED BY CUSTOMER.
2. "*" INDICATES PARTS MAY BE OBTAINED ON L&N ORDER USING PART NO. SHOWN.
3. WHEN MTG. ASSEMBLY COVER IS STAINLESS STEEL, USE STAINLESS STEEL PIPE.
   WHEN MTG. ASSEMBLY COVER IS PLASTIC, USE PLASTIC PIPE.
4. FOR INSTALLATION WIRING DIAGRAM SEE DWG. D-ID-1577-260-A.
5. WHEN NEMA 4 RATING IS REQUIRED, CUSTOMER TO SUPPLY WATER TIGHT SEALS FOR ELECTRICAL INLETS.

NO.	DATE	APPD.	REVISIONS

SUGGESTED COMPONENT ARRANGEMENT FOR INSTALLATION OF CAT 7773-3 SERIES ELECTRODE MTG. ASSEMBLY (FLOW TYPE) FOR REDOX MEAS.

DRAWN W. LINDSAY	CHECKED 3-14-72 J.W.W.	APPROVED J.W.W.
DESIGNED	DESIGN APPROVED	DATE 4-6-72

FIRST MADE FOR L&N ORDER NO. LN

(LP)

DWG. NO. B-1577-260-H

UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES
~~TOL. ON DECIMAL DIM. ± .005~~
~~TOL. ON OTHER DIM. ± 0'-0"~~

SCALE

DO NOT SCALE DWG.

LEEDS & NORTHRUP
NORTH WALES, PA. U.S.A.

FORM 68-18-0A

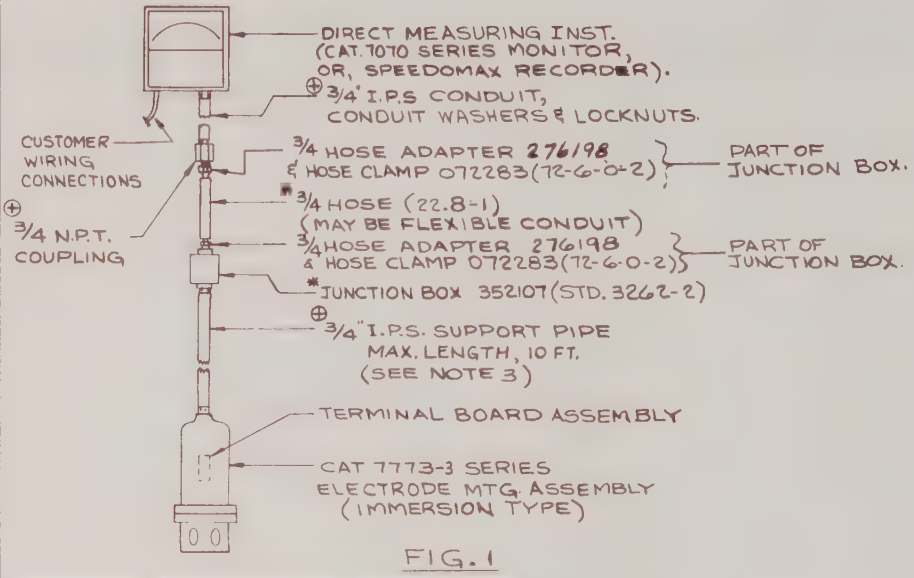

DIRECT MEASURING INST. (CAT. 7070 SERIES MONITOR, OR, SPEEDOMAX RECORDER).
⊕ 3/4" I.P.S CONDUIT, CONDUIT WASHERS & LOCKNUTS.
CUSTOMER WIRING CONNECTIONS
3/4 HOSE ADAPTER 276198 & HOSE CLAMP 072283 (72-6-0-2)
PART OF JUNCTION BOX.
⊕ 3/4 N.P.T. COUPLING
* 3/4 HOSE (22.8-1) (MAY BE FLEXIBLE CONDUIT)
3/4 HOSE ADAPTER 276198 & HOSE CLAMP 072283 (72-6-0-2)
PART OF JUNCTION BOX.
* JUNCTION BOX 352107 (STD. 3262-2)
⊕ 3/4" I.P.S. SUPPORT PIPE MAX. LENGTH, 10 FT. (SEE NOTE 3)
TERMINAL BOARD ASSEMBLY
CAT 7773-3 SERIES ELECTRODE MTG. ASSEMBLY (IMMERSION TYPE)

FIG. 1

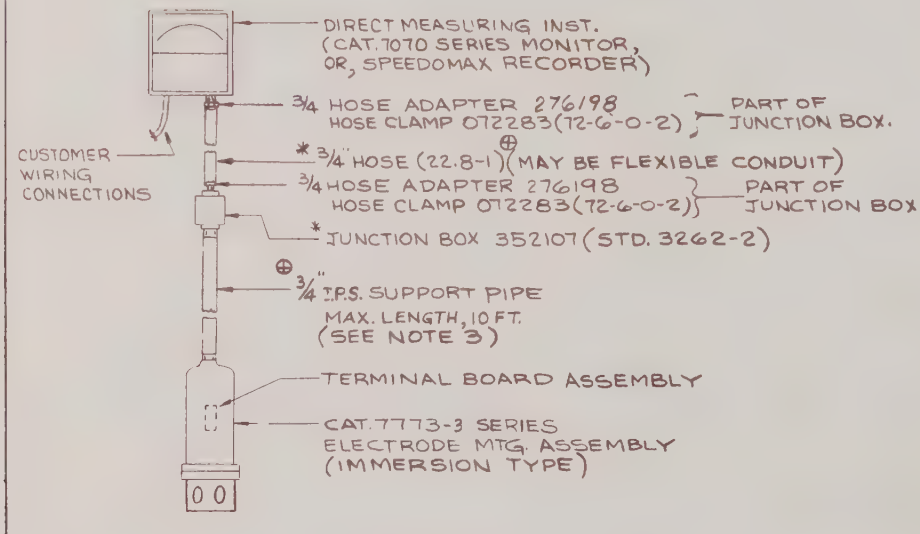

DIRECT MEASURING INST. (CAT. 7070 SERIES MONITOR, OR, SPEEDOMAX RECORDER)
3/4 HOSE ADAPTER 276198 HOSE CLAMP 072283 (72-6-0-2)
PART OF JUNCTION BOX.
CUSTOMER WIRING CONNECTIONS
* 3/4" HOSE (22.8-1) ⊕ (MAY BE FLEXIBLE CONDUIT)
3/4 HOSE ADAPTER 276198 HOSE CLAMP 072283 (72-6-0-2)
PART OF JUNCTION BOX
* JUNCTION BOX 352107 (STD. 3262-2)
⊕ 3/4" I.P.S. SUPPORT PIPE MAX. LENGTH, 10 FT. (SEE NOTE 3)
TERMINAL BOARD ASSEMBLY
CAT. 7773-3 SERIES ELECTRODE MTG. ASSEMBLY (IMMERSION TYPE)

FIG. 2

CUSTOMER'S NOTES:

1. ⊕ INDICATES PARTS SUPPLIED BY CUSTOMER.
2. * INDICATES PARTS MAY BE OBTAINED ON L&N ORDER USING PART NUMBER SHOWN.
3. WHEN MTG. ASSEMBLY COVER IS STAINLESS STEEL USE STAINLESS STEEL PIPE (10 FT. MAX. LENGTH).

   WHEN MTG. ASSEMBLY COVER IS PLASTIC USE PLASTIC PIPE (10 FT. MAX. LENGTH).
4. FOR INSTALLATION WIRING DIAGRAM, SEE DWG. D-ID-1577-260-A

NO.	DATE	APPD.	REVISIONS

SUGGESTED COMPONENT ARRANGEMENT FOR INSTALLATION OF CAT. 7773-3 SERIES ELECTRODE MTG. ASSEMBLY (IMMERSION TYPE) FOR ION SELECTIVE ELECTRODES

DRAWN	CHECKED	APPROVED
W. LINDSAY	3-14-72 J.W.W.	J.W.W.
DESIGNED	DESIGN APPROVED	DATE 4-6-72

FIRST MADE FOR L&N ORDER NO. LN

(LP)

DWG. NO. B-1577-260-I

UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES
~~TOL. ON DECIMAL DIM. ± .005"~~
~~TOL. ON OTHER DIM. ± .010"~~

SCALE

DO NOT SCALE DWG.

LEEDS & NORTHRUP
NORTH WALES, PA. U.S.A.

FORM 68-16-0A

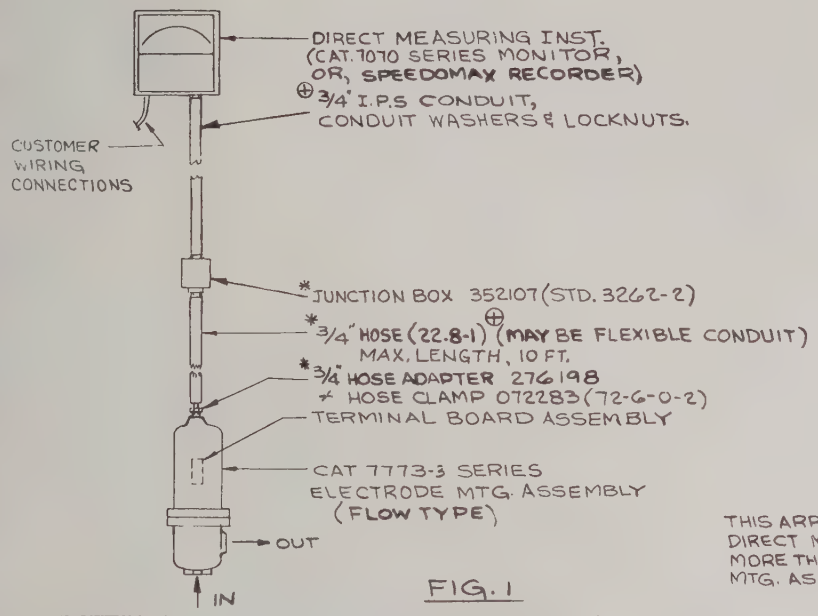


FIG. 1

THIS ARRANGEMENT FOR USE WHEN THE DIRECT MEASURING INST. IS MOUNTED MORE THAN 10 FT. FROM THE ELECTRODE MTG. ASSEMBLY.

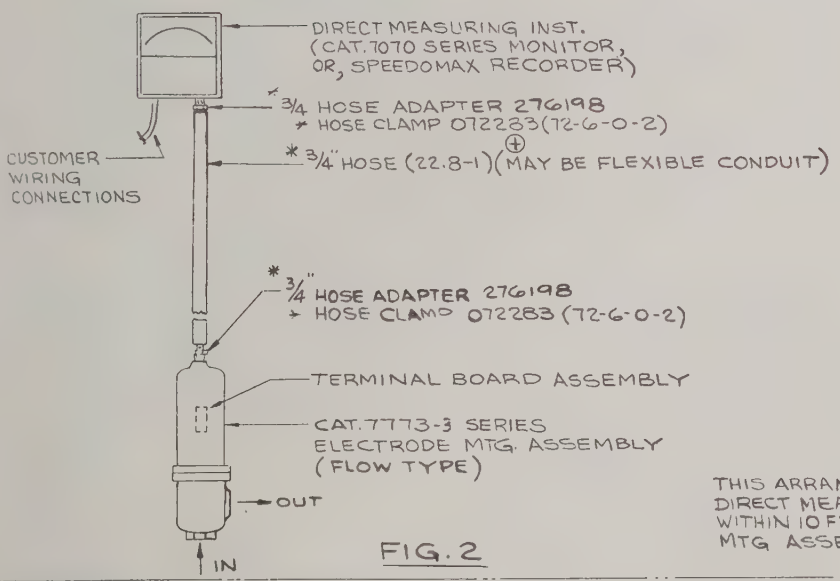


FIG. 2

THIS ARRANGEMENT FOR USE WHEN THE DIRECT MEASURING INST. IS MOUNTED WITHIN 10 FT. OF THE ELECTRODE MTG ASSEMBLY.

CUSTOMER'S NOTES:

1. ⊕ INDICATES PARTS SUPPLIED BY CUSTOMER.
2. * INDICATES PARTS MAY BE OBTAINED ON L&N ORDER USING PART NUMBER SHOWN.
3. FOR INSTALLATION WIRING DIAGRAM, SEE DWG. D-ID-1577-260-A

NO.	DATE	APPD.	REVISIONS

SUGGESTED COMPONENT ARRANGEMENT FOR INSTALLATION OF CAT. 7773-3 SERIES ELECTRODE MTG. ASSEMBLY (FLOW TYPE) FOR ION SELECTIVE ELECTRODES

DRAWN W. LINDSAY	CHECKED 3-14-72 J.W.W.	APPROVED J.W.W.
DESIGNED	DESIGN APPROVED	DATE 4-6-72

FIRST MADE FOR L&N ORDER NO. LN

(LP)

DWG. NO. B-1577-260-J

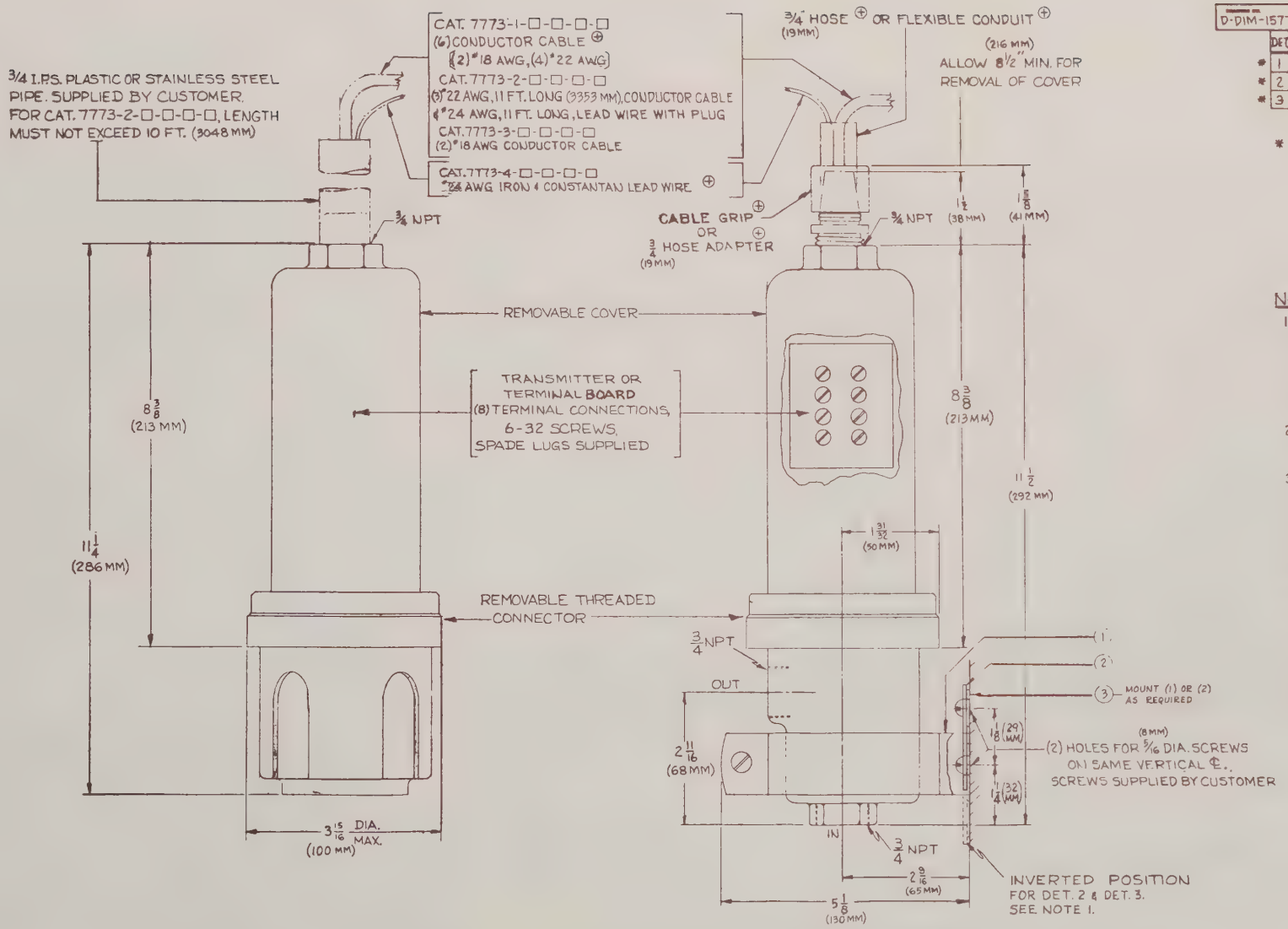
UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES
~~TOL. ON DECIMAL DIM. ± .005"~~
~~TOL. ON OTHER DIM. ± .010"~~

SCALE

DO NOT SCALE DWG.

LEEDS & NORTHRUP
NORTH WALES, PA. U.S.A.

FORM 82-10-8A


CAT. 7773-1-□-□-□-□
(6) CONDUCTOR CABLE ⊕
((2) #18 AWG, (4) #22 AWG)
CAT. 7773-2-□-□-□-□
(6) #22 AWG, 11 FT. LONG (3353 MM), CONDUCTOR CABLE
& #24 AWG, 11 FT. LONG, LEAD WIRE WITH PLUG
CAT. 7773-3-□-□-□-□
(2) #18 AWG CONDUCTOR CABLE
CAT. 7773-4-□-□-□-□
#24 AWG IRON & CONSTANTAN LEAD WIRE ⊕
3/4 I.P.S. PLASTIC OR STAINLESS STEEL PIPE. SUPPLIED BY CUSTOMER. FOR CAT. 7773-2-□-□-□-□, LENGTH MUST NOT EXCEED 10 FT. (3048 MM)
3/4 HOSE ⊕ OR FLEXIBLE CONDUIT ⊕
(19 MM)
(216 MM)
ALLOW 8 1/2" MIN. FOR REMOVAL OF COVER
3/4 NPT
CABLE GRIP ⊕ OR 3/4 HOSE ADAPTER ⊕
(19 MM)
1 1/2 (38 MM)
1 5/8 (41 MM)
REMOVABLE COVER
TRANSMITTER OR TERMINAL BOARD
(8) TERMINAL CONNECTIONS, 6-32 SCREWS, SPADE LUGS SUPPLIED
8 3/8 (213 MM)
11 1/4 (286 MM)
11 1/2 (292 MM)
1 31/32 (50 MM)
REMOVABLE THREADED CONNECTOR
3/4 NPT
OUT
1
2
3 MOUNT (1) OR (2) AS REQUIRED
1 1/8 (29 MM)
(8 MM)
(2) HOLES FOR 5/16 DIA. SCREWS ON SAME VERTICAL ℄. SCREWS SUPPLIED BY CUSTOMER
2 11/16 (68 MM)
1 1/4 (32 MM)
3 15/16 DIA. MAX. (100 MM)
IN
3/4 NPT
2 9/16 (65 MM)
5 1/8 (130 MM)
INVERTED POSITION FOR DET. 2 & DET. 3. SEE NOTE 1.

IMMERSION TYPE ASSEMBLY

FLOW TYPE ASSEMBLY

D-DIM-1577-260

DET	QTY	PART NUMBER	DESCRIPTION
* 1	1	072682	CLAMP
* 2	1	027595	RETAINING PLATE
* 3	2	001865	WASHER

* = PARTS SUPPLIED AS KIT № 324438

NOTES:

1. MOUNT FLOW CHAMBER TO SUIT PIPING. IF "OUT" CONNECTION FACES THE MOUNTING SURFACE, PROVIDE BLOCK FOR CLAMP MOUNTING & TURN DET. 2 & DET. 3 TO INVERTED POSITION SHOWN.
2. ⊕ INDICATES MATERIAL ORDERED SEPARATELY.
3. FOR TYPICAL INSTALLATIONS SEE DWGS.
   - B-1577-260-B (CAT. 7773-1 SERIES-IMMERSION)
   - B-1577-260-C (CAT. 7773-2 SERIES-IMMERSION)
   - B-1577-260-D (CAT. 7773-2 SERIES-FLOW)
   - B-1577-260-E (CAT. 7773-1 SERIES-FLOW)
   - B-1577-260-G (CAT. 7773-3 SERIES-IMMERSION) (REDOX)
   - B-1577-260-H (CAT. 7773-3 SERIES-FLOW) (REDOX)
   - B-1577-260-I (CAT. 7773-3 SERIES-IMMERSION) (ION SELECTIVE)
   - B-1577-260-J (CAT. 7773-3 SERIES-FLOW) (ION SELECTIVE)
   - C-1577-260-F (CAT. 7773 SERIES-IMMERSION) (SUGGESTED MTG. ARRANGEMENT)
   - B-1577-260-K (CAT. 7773-4 SERIES (FLOW & IMMERSION)
4. FOR INSTALLATION WIRING DIAGRAMS SEE DWGS.
   - D-ID-1577-260-A (CAT. 7773-2 SERIES / CAT. 7773-3 SERIES)
   - D-ID-1577-260-B (CAT. 7773-1 SERIES)

ISSUE	DATE	REVISION NO	ZONE	APPROVAL
C	1-20-74	C-117		
B	3-1-74	C-122		
A	4-6-73	INITIAL RELEASE		

TEMPORARY APPROVAL ☐ FINAL APPROVAL ☐

DRAWN J. SMILEY — CHECKED — ENG APPD. J.W.W.

DESIGNED — DATE 4-6-73

OUTLINE & MTG. DIMS. OF CAT. 7773 SERIES ELECTRODE MOUNTING ASSEMBLIES

(LP)

UNLESS OTHERWISE STATED: ALL DIMENSIONS IN INCHES & MM. TOL. ON OTHER X DIM. ± ... ANGULAR TOL. ±2°. TOL. ON MM DIM. ± .5 MM

SCALE — DO NOT SCALE DWG.

LEEDS & NORTHRUP, NORTH WALES, PA. U.S.A.

SIZE D

DWG. NO. D-DIM-1577-260

SH. NO. — NO. SH.

DRAWING NO. D-ID-1577-260-A

CONNECTIONS FOR DIRECT MEASURING SPEEDOMAX® pH RECORDER WITH AUTO. TEMPERATURE COMPENSATION

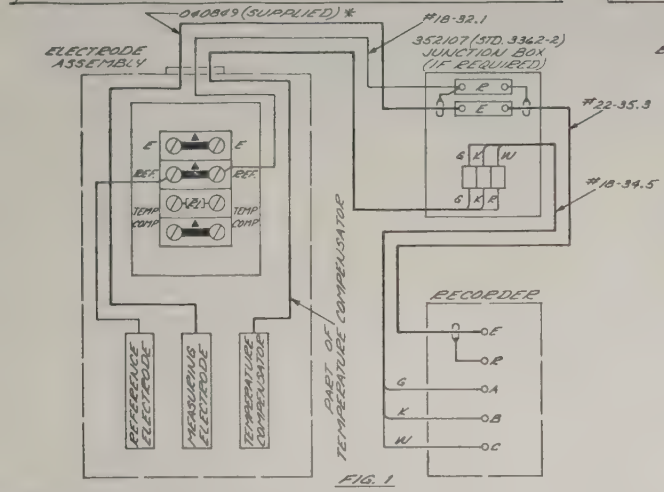


FIG. 1

CONNECTIONS FOR DIRECT MEASURING CAT. 7070 SERIES pH MONITOR WITH AUTO. TEMPERATURE COMPENSATION.

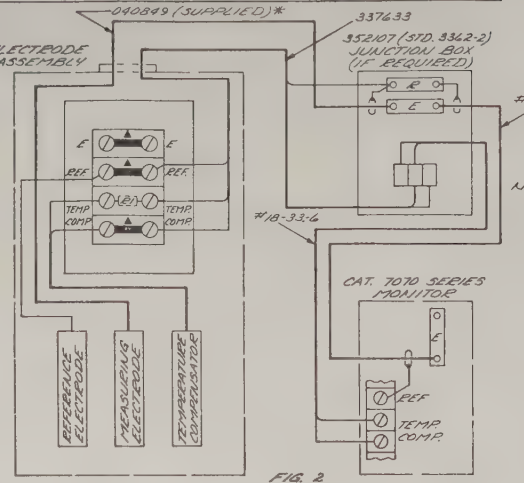


FIG. 2

CONNECTIONS FOR DIRECT MEASURING CAT. 7070 SERIES REDOX MONITOR

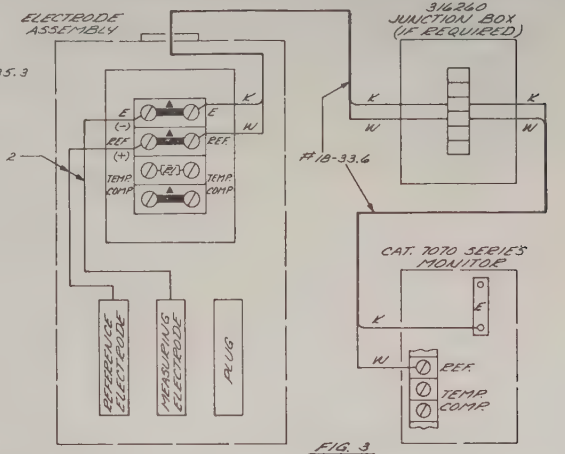


FIG. 3

NOTES:
1. R1 RESISTOR (107A 311972) IS MOUNTED ON REAR OF TERMINAL BOARD.
2. WIRING SHOWN CONNECTED FOR NEGATIVE (-) REDOX POTENTIALS (CYANIDE TREATMENT). FOR POSITIVE (+) REDOX POTENTIALS REVERSE LEADS (CHROME TREATMENT).

LEGEND:
▲ - INDICATES METAL JUMPER.
* - LEAD MAY BE INTEGAL PART OF ELECTRODE

CONNECTIONS FOR DIRECT MEASURING SPEEDOMAX® pH RECORDER WITH FIXED TEMPERATURE COMPENSATION

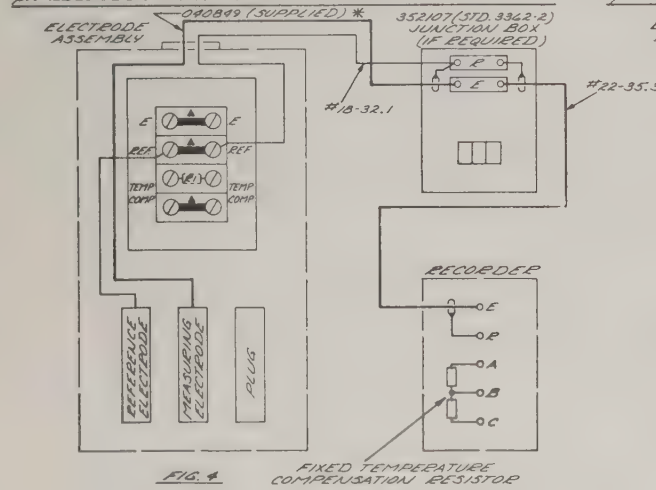


FIG. 4

CONNECTIONS FOR DIRECT MEASURING CAT. 7070 SERIES pH MONITOR WITH MAN. TEMPERATURE COMPENSATION

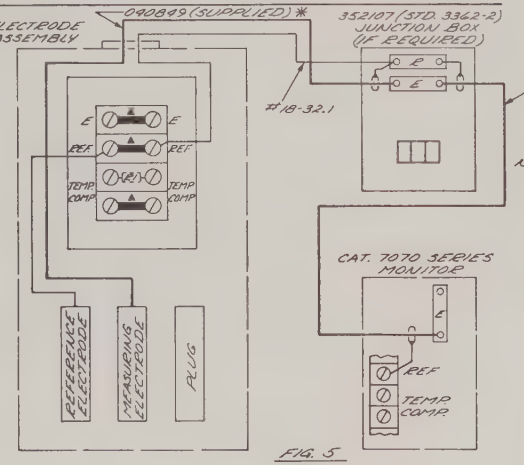


FIG. 5

CONNECTIONS FOR DIRECT MEASURING SPEEDOMAX® REDOX RECORDER

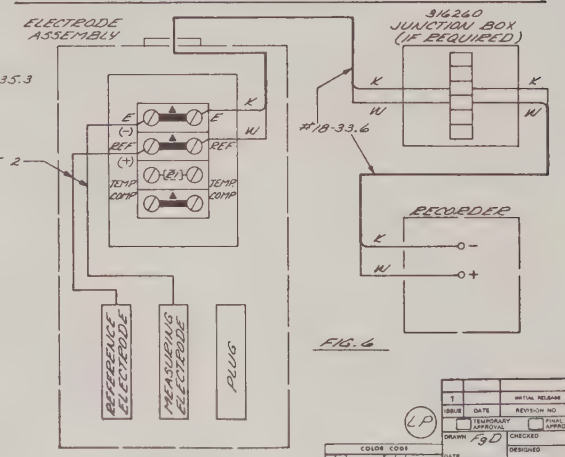


FIG. 6

COLOR CODE					
1	N	BROWN	6	B	BLUE
2	R	RED	7	V	VIOLET
3	O	ORANGE	8	A	GRAY
4	Y	YELLOW	9	W	WHITE
5	G	GREEN	0	K	BLACK

ISSUE	DATE	REVISION NO	ZONE	APPROVED
1		INITIAL RELEASE		

TEMPORARY APPROVAL | FINAL APPROVAL

DRAWN FJD | CHECKED | ENG. APVD JP Gunther

DESIGNED | DATE 7-9-72

FIRST MADE FOR

INSTALLATION WIRING DIA. FOR DIRECT MEAS. I.I.S.T. WITH CAT. 7773-2 & 7773-3 SERIES ELECTRODE ASSEMBLY

SCALE: DO NOT SCALE DWG

LEEDS & NORTHRUP, NORTH WALES, PA. U.S.A.

DWG. NO. D-ID-1577-260-A

SH. 1 NO. SH. 1

CAT. 7773-¼-□□-□-□□
CAT. 7779-3-□□-□-□□
TRANSMITTER ELECTRODE ASSEMBLY

pH WITH AUTOMATIC TEMPERATURE COMPENSATION

#22-34.28

CAT. 7073 SERIES RECEIVER

TO TEMPERATURE MONITOR

TRANSMITTER PC SC SIG TM TA +16 -16 | REC + − | AUX + −

C K E B G

HOT BLK | NEU WHT | — | + | NC | C | NO #1 | NC | C | NO #2

GND | 120V 50-60HZ | 20A | 4 VOLTS OUTPUT | ALARM #1 | ALARM #2

THERMOCOUPLE | REFERENCE ELECTRODE | MEASUREING ELECTRODE | TEMPERATURE COMPENSATOR

CAT. 7773-4 SERIES ONLY

FIG. 1

EARTH GROUND | 120V. 12 VA 50-60 HZ | SELECTABLE ISOLATED OUTPUTS | MILLIAMPS | VOLTAGE | NORMALLY CLOSED | COMMON | NORMALLY OPEN | TO CUSTOMER'S ALARM CIRCUIT (SEE NOTE 3) | NORMALLY CLOSED | COMMON | NORMALLY OPEN | TO CUSTOMER'S ALARM CIRCUIT (SEE NOTE 3) | 0 TO 1 V. OUTPUT | OPTIONAL OUTPUT FOR REMOTE METER

TYPICAL WIRING FOR RECEIVERS

CAT. 7773-¼-□□-□-□□
CAT. 7779-3-□□-□-□□
TRANSMITTER ELECTRODE ASSEMBLY

pH WITH MANUAL TEMPERATURE COMPENSATION

DRAWING NO. D-ID-1577-260-B

CAT. 7073 SERIES RECEIVER

TRANSMITTER PC SC SIG TM TA +16 -16

TO TEMPERATURE MONITOR

#22-34.28

CAT. 7773-4 SERIES ONLY

THERMOCOUPLE | REFERENCE ELECTRODE | MEASUREING ELECTRODE | PLUG

FIG. 2

CAT. 7773-¼-□□-□-□□
CAT. 7779-3-□□-□-□□
TRANSMITTER ELECTRODE ASSEMBLY

pH WITH FIXED TEMPERATURE COMPENSATION

#22-34.28

CAT. 7073 SERIES RECEIVER

TRANSMITTER PC SC SIG TM TA +16 -16

TO TEMPERATURE MONITOR

SEE NOTE 1

THERMOCOUPLE | REFERENCE ELECTRODE | MEASUREING ELECTRODE | PLUG

CAT. 7773-4 SERIES ONLY

FIG. 3

CAT. 7773-¼-□□-□-□□
CAT. 7779-3-□□-□-□□
"PLATINUM" ELECTRODE ASSEMBLY

REDOX

#22-34.28

CAT. 7073 SERIES RECEIVER

TRANSMITTER PC SC SIG TM TA +16 -16

CONNECTOR

SEE NOTE 2

TO TEMPERATURE MONITOR

CAT. 7773-4 SERIES ONLY

THERMOCOUPLE | REFERENCE ELECTRODE | MEASUREING ELECTRODE | PLUG

FIG. 4

NOTES:

1. FIXED RESISTOR. TEMPERATURE DETERMINED BY CUSTOMER.
2. WIRING SHOWN CONNECTED FOR NEGATIVE (−) REDOX POTENTIALS (CYANIDE TREATMENT). FOR POSITIVE (+) REDOX POTENTIALS REVERSE LEADS (CHROME TREATMENT).
3. ALARM CONTACTS ARE RATED FOR 3 AMPS 120 V.AC. OR 3 AMPS. 28 VDC (INDUCTIVE).

LEGEND:

■ - INDICATES ALARM CONTACT POSITION WHEN RECEIVER IS ENERGIZED.

▲ - INDICATES METAL JUMPER.

C	4-24-74	C 133 (Rev. Title)	U.K.M.
B	3-26-74	C 117	U.K.M.
A	11-30-73	C 6149	E.J.M.

ISSUE | DATE | REVISION NO | ZONE | APPROVAL

TEMPORARY APPROVAL | FINAL APPROVAL

DRAWN F.G.D. | CHECKED | ENG. APPD. K.F. Bowden

DATE | DESIGNED | DATE 3-9-72

FIRST MADE FOR ... UNDER NO. CM ...

COLOR CODE

N	BROWN	A	B	BLUE	
R	RED	V	V	VIOLET	
O	ORANGE	G	A	GRAY	
Y	YELLOW	W	W	WHITE	
G	GREEN	B	K	BLACK	

INSTALLATION WIRING DIA FOR CAT. 7073-¼ SERIES RECEIVER & TRANSMITTER ELECTRODE ASSEMBLY

UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES TOL ON DECIMALS ± 0.030 ANGULAR TOL ± 2°

SCALE — DO NOT SCALE DWG

LEEDS & NORTHRUP NORTH WALES, PA. U.S.A.

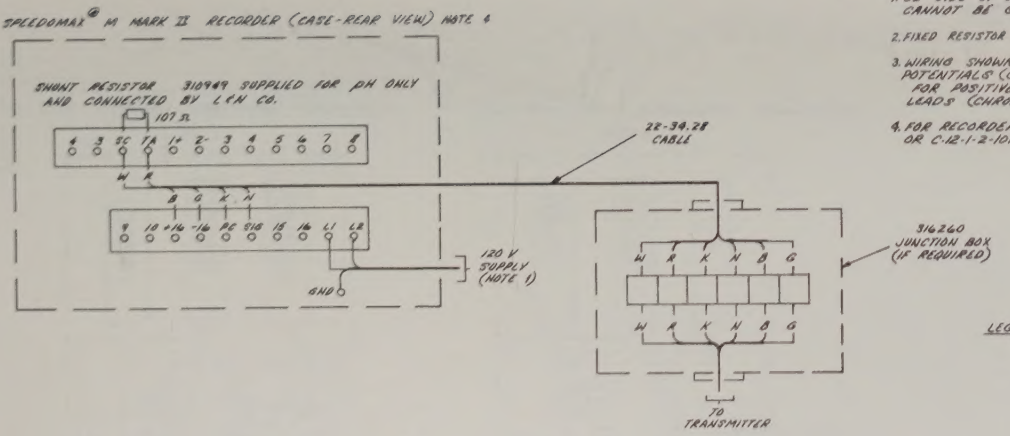
DWG. SIZE D

DWG. NO. D-ID-1577-260-B

SH. NO. 1 NO. SH. 1

NOTES:

1. L2 SIDE OF LINE SHOULD BE GROUNDED. IF LINE SUPPLY CANNOT BE GROUNDED ADD ISOLATING TRANSFORMER AND GROUND.
2. FIXED RESISTOR TEMPERATURE DETERMINED BY CUSTOMER.
3. WIRING SHOWN CONNECTED FOR NEGATIVE (−) REDOX POTENTIALS (CYANIDE TREATMENT). FOR POSITIVE (+) REDOX POTENTIALS REVERSE LEADS (CHROME TREATMENT).
4. FOR RECORDER MEASURING CIRCUIT SEE C-12-1-2-101-2 (pH) OR C-12-1-2-101-5 (REDOX).


SPEEDOMAX® M MARK II RECORDER (CASE-REAR VIEW) NOTE 4
SHUNT RESISTOR 310949 SUPPLIED FOR pH ONLY AND CONNECTED BY LCN CO.
107 Ω
22-34.28 CABLE
120 V SUPPLY (NOTE 1)
GND
316260 JUNCTION BOX (IF REQUIRED)
TO TRANSMITTER

LEGEND:
▲ — INDICATES METAL JUMPER.

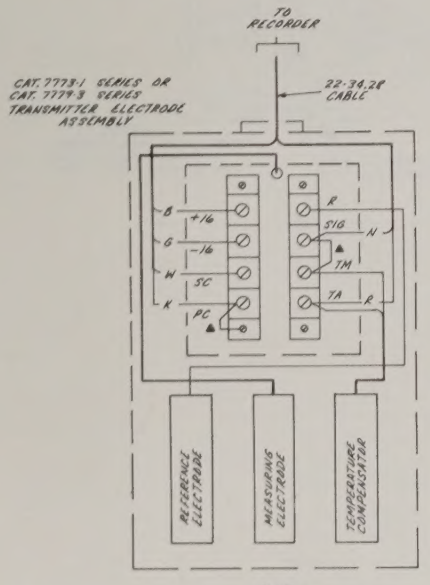


FIG. 1

pH WITH AUTOMATIC TEMPERATURE COMPENSATION

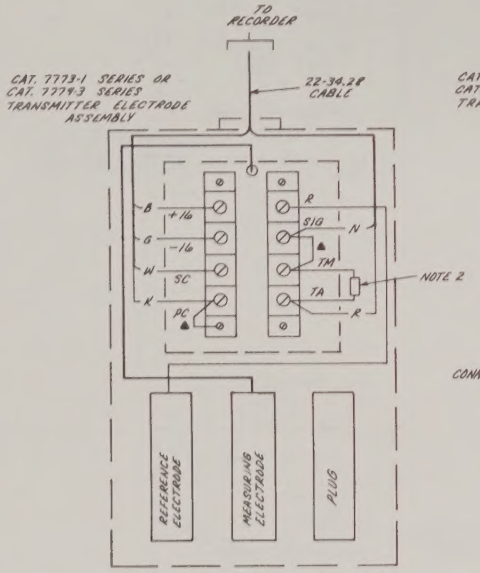


FIG. 2

pH WITH FIXED TEMPERATURE COMPENSATION

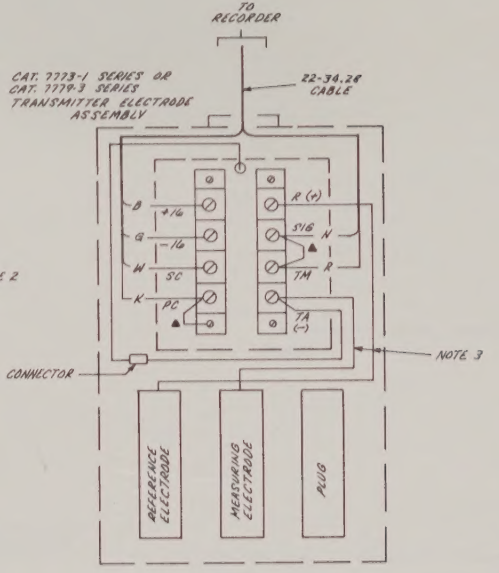


FIG. 3

REDOX

DRAWING NO. C-ID-1577-260-E

ISSUE	DATE	REVISION NO.	APPROVAL
A	9-11-73	INITIAL RELEASE	C.S. TH.

TEMPORARY APPROVAL ☐ FINAL APPROVAL ☒

DRAWN W. HENDERSON DATE

CHECKED [illegible] DESIGNED

ENG. APPD. C.S. THOMAS DATE 9-11-73

FIRST MADE FOR ~~LN ORDER NO.~~ LN L-0906-24

INTERCONNECTION WIRING DIAGRAM FOR CAT. 7773-1 SERIES OR CAT. 7779-3 SERIES TRANSMITTER ELECTRODE ASSEMBLY WITH SPEEDOMAX® M RECORDER

COLOR CODE					
1	N	BROWN	6	B	BLUE
2	R	RED	7	V	VIOLET
3	O	ORANGE	8	A	GRAY
4	Y	YELLOW	9	W	WHITE
5	G	GREEN	0	K	BLACK

UNLESS OTHERWISE STATED:
ALL DIMENSIONS IN INCHES
TOL. ON DECIMAL DIM. ±.005"
TOL. ON OTHER DIM. ±.01"
ANGULAR TOL. ±2°

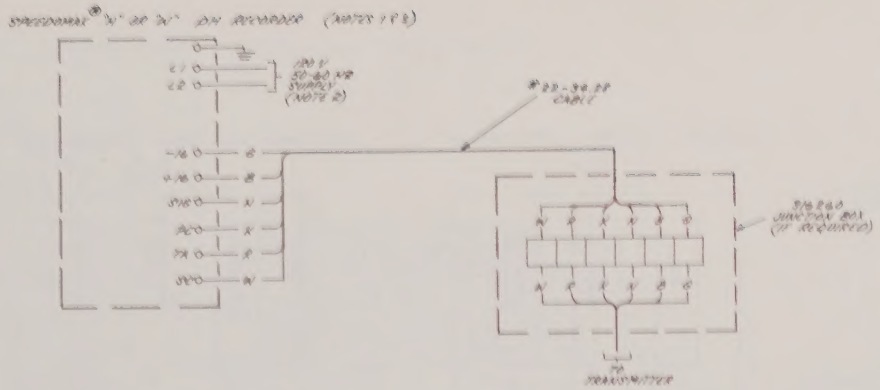
SCALE DO NOT SCALE DWG.

LEEDS & NORTHRUP NORTH WALES, PA. U.S.A.

DWG. SIZE C

DWG. NO. C-ID-1577-260-E

SH. NO. 1 NO. SH. 1



NOTES:

1. IDENTIFY RECORDER TERMINALS BY MARKINGS NOT LOCATION.
2. LE SIDE OF LINE SHOULD BE GROUNDED. IF LINE SUPPLY CANNOT BE GROUNDED ADD ISOLATING TRANSFORMER & GROUND
3. FOR RECORDER MEASURING CIRCUIT SEE DWG. C-2-1-1-155-1 (SPEEDOMAX ® W").
   C-1-1-1-155-1 (SPEEDOMAX ® H").
4. FIXED RESISTOR TEMPERATURE DETERMINED BY CUSTOMER.

LEGEND:

▲ = INDICATES METAL JUMPER.

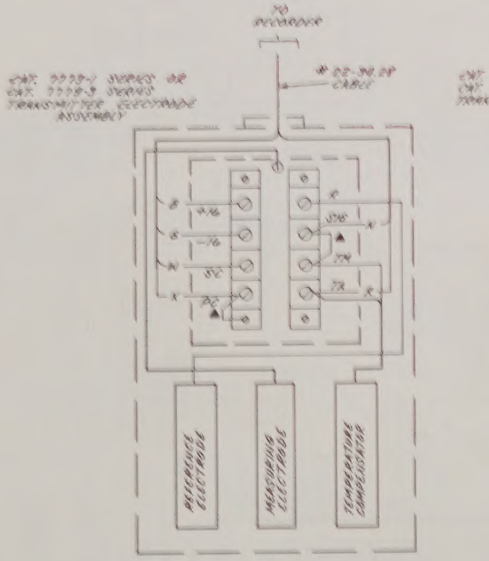


FIG. 1

pH WITH AUTOMATIC TEMPERATURE COMPENSATION

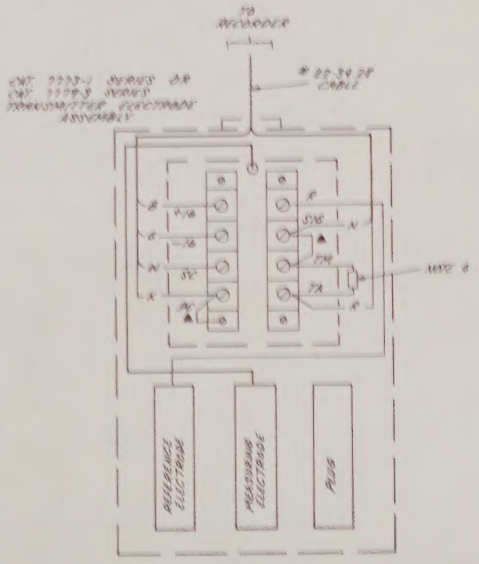


FIG. 2

pH WITH FIXED TEMPERATURE COMPENSATION

C-ID-1577-260-F

ISSUE	DATE	REVISION NO.	APPROVAL
1	9-21-77	INITIAL RELEASE	GJP

TEMPORARY APPROVAL ☐ FINAL APPROVAL ☒

DRAWN: M. HADERMAN DATE

CHECKED: DESIGNED: ENG. APPD.: G. J. Post DATE 12/14/78

FIRST MADE FOR USE UNDER NO. LN 7-0806-27

COLOR CODE			
1 R	BROWN	6 B	BLUE
2 R	RED	7 V	VIOLET
3 R	ORANGE	8 A	GRAY
4 Y	YELLOW	9 W	WHITE
5 G	GREEN	0 B	BLACK

INTERCONNECTION WIRING DIAGRAM FOR CAT 7729-J SERIES OR CAT 7729-S SERIES TRANSMITTER ELECTRODE ASSEMBLY WITH SPEEDOMAX ® W OR H pH RECORDER

UNLESS OTHERWISE STATED: ALL DIMENSIONS IN INCHES TOL. ON DECIMAL DIM. ± .005 TOL. ON ANGULAR DIM. ± .5°

SCALE: DO NOT SCALE DWG.

LEEDS & NORTHRUP, NORTH WALES, PA. U.S.A.

SIZE: C

DWG. NO. C-ID-1577-260-F

SH. NO. 1 NO. SH. 1

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FL, Orlando
GA, Atlanta
IL, Chicago (Rosemont)
IL, Lansing
IN, Indianapolis
IA, Davenport (Bettendorf)
KS, Kansas City (Mission)
KY, Louisville
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MD, Baltimore (Columbia)
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OH, Cincinnati
OH, Cleveland
OH, Columbus
OH, Toledo
OK, Tulsa
OR, Portland
PA, Bethlehem (Allentown)
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